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Dissecting Aneurysm of the Left Common Iliac Artery Report of a Case*

KENNETH A. BREWER, M.D.**

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A case of dissecting aneurysm of the left common iliac artery with fatal termination is herein reported. This condition is apparently rare as a review of the literature reveals only three previous reported cases. Kjellberg[1] reports one case which was confirmed by autopsy. In this case, a tumor mass in the lower abdominal quadrant was demonstrated by x-ray, prior to death. Barber[2] in 1926, reported a case of bilateral iliac aneurysms with a dissecting process present in both aneurysmal sacs. Joachim and Goldzieher[3] report a case of bilateral saccular type aneurysms of the common iliac arteries with a dissecting process present in the left. Numerous cases of non-dissecting aneurysms of the iliac arteries have been reported, but the above named cases are the only ones found which are considered as true dissecting aneurysms. In each of these three cases the etiology was felt to be due to arteriosclerosis.

W. A. S., colored, a 50-year-old bricksetter was admitted to Walter Reed General Hospital on September 13, 1938. His past and family history were not important except that his father died at 49 from kidney disease; his mother died at 50 from cancer of the stomach, and one sister died of tuberculosis. His general health had always been good. He denied having had syphilis or gonorrhea, but did have a bilateral suppurative lymphadenitis some years before. One month prior to admission to the hospital while going home from work he experienced a sudden sharp and severe knife-like pain in the left lower abdomen which radiated to the lumbar region and down the left leg. This attack was accompanied by a brief period of weakness and unconsciousness from which he soon recovered and was able to continue to his home. The following day he was nauseated and vomited. The character of the pain changed to a constant dull ache with periods of sharp lancinating pain at irregular intervals, with radiation down the left leg. During the next three weeks before admission he remained home at rest, losing considerable weight and strength.

Examination revealed an ambulant, fairly well developed and nourished individual who appeared weak and ill. There was evidence of recent loss of weight. Temperature was 100°F, pulse 96 per minute and respiration 20 per minute. The palpable vessels disclosed arteriosclerosis commensurate with his age. Blood pressure was 140/70. The supracardiac area was slightly widened. Over the aortic area was heard an early soft diastolic murmur which was transmitted down the sternum. Numerous premature contractions were noted. The abdomen was soft, scaphoid and there was a moderate tenderness over the left upper abdomen. No masses or pulsations could be made out. Many teeth were missing and the remainder were in a very poor state. The remainder of the physical examination was essentially normal. Patient was given complete gastrointestinal survey which revealed no abnormalities except mild internal hemorrhoids and a diverticulum of the sigmoid. Six foot chest plate showed the lungs clear, the size of the heart at the upper limits of normal and a slight widening of the supracardiac shadow. Urine analysis was normal in all

*From the Cardio-Vascular-Renal Section of the Medical Service, Walter Reed General Hospital, Washington, D. C.
**Major, Medical Corps, U. S. Army.

respects. Complete blood count showed 4,180,000 red cells with 75 percent hemoglobin. The white cells numbered 9,200 with a normal differential count. The Kahn reaction was negative. Blood sugar was reported as 116.2 mgm. percent and urea nitrogen 17.64 mgm. percent. Electrocardiogram disclosed a partial intraventricular block, the duration of the QRS complex being 0.12 second; auricular premature beats; T wave negativty in Leads II and III with low voltage in Leads I and IV.

The following clinical diagnoses were made: (1) Arteriosclerosis, moderate, generalized, with chronic aortitis and relative aortic insufficiency. (2) Diverticulum of the sigmoid. (3) Hemorrhoids, internal, mild.

The clinical course in the hospital was not remarkable except for several attacks of sharp shooting pain in the extreme left lower abdomen. These were controlled with codeine and phenobarbital. The abdomen was examined on numerous occasions, but the findings were not remarkable. The blood pressure varied from 122/90 to 138/70. At about 3:00 A.M., October 14, 1938 he complained bitterly of sharp lancinating pain in the left lower quadrant, for which he was given codeine. This gave him some relief and he went to sleep. At 6:00 A.M. his condition became critical, and he died at 6:15 A.M.

Necropsy was done about 24 hours after death. The lungs were slightly adherent along the spine and there was some edema of the bases. The pericardial sac was universally adherent over the entire heart by fibrous adhesions. Heart weighed 450 grams and was slightly globular in shape. The muscle was of good consistency. The tricuspid valve was dilated, measuring 13 cm. in circumference. The wall of the right ventricle measured 4 mm. in thickness and the left ventricle 1.5 mm. The coronary arteries were normal and without atheroma. The aorta was irregularly dilated at the arch and throughout its entire length contained many plaques, which were in part pale and in part yellowish. There was no ulceration of the aorta. Beginning at the bifurcation of the iliac arteries and extending for a distance of 4 cm. along the course of the left common iliac artery was an aneurysmal sac. This had an internal opening through an atheromatous ulcer at the beginning of the left iliac artery, from which point it had dissected along the medial coat of the vessel for a distance of about 4 cm. There was an erosion of the aneurysmal sac posteriorly, but there was no rupture at this point. Anteriorly the sac was necrotic and had ruptured through the aneurysm wall and overlying peritoneum into the abdomen. The abdominal cavity contained about 2000 cc. of bloody fluid and clots. After complete gross and microscopic studies the pathologic diagnoses were: (1) Arteriosclerosis, moderate generalized, with arteriosclerosis, severe of aorta. (2) Aneurysm, dissecting, ruptured, left iliac artery, just below the bifurcation, secondary to No. 1, with hemorrhage, intra-abdominal, severe. (3) Pericarditis, adhesive, fibrous, old, cause undetermined. (4) Mild degeneration of the myocardium with replacement fibrosis. (5) Passive hyperemia, moderate, of lungs, spleen, liver and kidneys.

COMMENT

This case is of interest because of its rarity, only three other cases being found in the literature in which a dissecting process involved only the common iliac arteries. In all cases, the etiology was arteriosclerosis, syphilis playing no apparent role.

The acute onset is compatible with what one would expect when the dissecting process began with its point of origin through an atheromatous ulcer. As the process advanced, more attacks of severe sharp lancinating pain were experienced by the patient. Fatal termination was by massive hemorrhage into the abdominal cavity by way of a rupture through the anterior wall of the aneurysm and the overlying peritoneum.

Treatment in cases of this type and also in any type of aneurysm of the iliac vessels is of a surgical nature. Various methods[4-5-6] have been described, such as ligation of the vessel involved above the aneurysm; partial and complete ligation of the abdominal aorta; and obliterative endo-aneurysmorrhaphies.

While cases of this nature are considered rare, this condition must be considered when lower quadrant pain is encountered, especially when the patient is in the arteriosclerotic age group.

SUMMARY

A case of dissecting aneurysm of the left common iliac artery has been reported in which the etiology is considered to be (on the basis of) arteriosclerosis.

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Electrotherapy in Ophthalmology*

MEYER WIENER, M.D.
ST. LOUIS, MISSOURI

In considering electrotherapy for the eye, one is forced to include most of the forces generated by the electric current, even though the effect of the electricity is remote. I refer to photo-therapy; electrically generated and controlled heat; the short wave and diathermy. Radium and x-ray must be included, although they are separate studies in themselves.

PHOTO-THERAPY

In the use of light treatments on the eye, several factors make the effect different than on other parts of the body, the most important of which is the transparency of the ocular media which allows certain kinds of light to penetrate enough to injure the different structures.

The cornea absorbs 50 percent of the longer infra-red, between 18,000 and 16,000 Angstrom units; the other half being absorbed by the lens. Between 16,000 and 13,000 Angstrom units the cornea absorbs almost all the light; while from 13,500 down to the beginning of the visible red rays at 7,700 an increasing amount is transmitted, reaching 100 percent for the rays of the visible spectrum, 7,000 to 4,000. In the ultra violet region it absorbs practically all of the rays below 2950. The aqueous and vitreous transmit all the rays which pass the cornea. The lens, besides absorbing most of the longer infra-red rays which pass the cornea, absorbs 25 percent of the rays between the 13,500 and 11,000; all the ultra-violet rays between 2950 and 3200 and part of those between 3200 and 4000. These rays are important, since it is only absorbed rays which are effective; or larger doses harmful.

ULTRAVIOLET

Ultraviolet rays are bactericidal, stimulate regeneration locally, improve nutrition by the hyperaemia produced, and when used for general body treatment, increase antibodies in the blood. The rays of special use are those below 3,000 Angstrom units. The cornea is especially sensitive to ultraviolet rays not only because of its absorption, but because of its rich supply of nerve terminals. Mercury vapor tube and the carbon arc are the chief sources of ultraviolet light. When the cornea is exposed to ultraviolet light of sufficient strength, an abiotic reaction begins after six to eight hours, with swelling and irregularity of the epithelium and formation of vesicles. Treatment should begin with an erythema dose with approximately 6000 volt seconds exposure lasting one minute or slightly more, using a 40 mm. lens. To determine the sensitivity of the individual, one can try an erythema dose on the forearm. Even a slight abiotic reaction on the cornea is extremely painful. Such a reaction is the basis of snow blindness and may occur in typical form after exposure to the flash of an electric arc. Ultraviolet rays which pass through the cornea in large doses may have the same effect on the epithelium of the lens capsule as on the cornea (Duke-Elder[1]).

Corneal ulcers have been reported as especially benefited by this method of treatment. The light should be focused on the ulcer alone, as nearly as possible. Even then, the effects are painful. Tuberculosis keratitis, serpiginous ulcers, dendritic and phlyctenular keratitis have received favorable comment. Personally, I would not recommend its use in any local inflammation, as its use increases the sensitivity to light as well as the vascularity and pain. The only exception is one of those slow healing ulcers with little, or no vascularity, or the type of lesion following an x-ray or radium burn. Even in these instances, the pit fills up and epithelium tends to be stimulated and regenerate with the use of water-soluble aniline red. A great advantage of the dye is our ability to control its action.

The best results from ultraviolet medication, in the light of recent knowledge, may be expected from general application, rather than local. Nedzel and Pincussen[2] found that the death rate in mice infected with streptococci was reduced from 25 percent in non-radiated to eight percent in those irradiated with the carbon arc lamp, and to 15 percent with the quartz lamp. Why there should be this difference is not explained. When sulfanilamide was given, the death rate was higher in the irradiated animals than in the controls, increasing eight to 15 percent with the carbon arc and 54 percent with the quartz. The present revival of light therapy investigation had its beginning in Koch's observa-

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tion of the lethal action of sunlight on the tubercle bacilli and Finsen's demonstration of the cure of lupus by the carbon arc. For corneal herpes, the full erythema dose is given every two days until the lesions cease to stain. For general irradiation of the body, choose that type of lamp which exhibits a continuous spectrum and transmits the luminous near infra-red and longer ultraviolet rather than the shorter ultraviolet. At Moorfields Hospital under Duke-Elder, one-third of the body is irradiated with an erythema dose, which is repeated two or three times a week. It is found especially helpful in cases of lowered resistance.

GALVANIC CURRENT

It is used for the destruction of wild hairs and sometimes for the destruction of very small growths on the lids and on the conjunctiva. It is also useful in destroying large conjunctival vessels on the globe which may be unsightly. One may use dry or wet cell battery, or a transformer. The strength of the current is usually about ten milliamperes, but one must really judge by watching the freeing of the hydrogen bubbles in water when the two poles are immersed in a glass of water. One places both positive and negative ends in a glass of water, turning on the current until the bubbles emerge freely from the negative pole (hydrogen). The patient holds a pad connected with the positive pole in his hand, the needle is sunk gently into the hair follicle and held in place until a considerable collection of hydrogen bubbles collects over the follicle around the needle to a depth of about two millimeters, when the needle is withdrawn. The current should not be turned on until the needle is in place; and should be shut off before the needle is withdrawn. This lessens the pain and shock. When the needle is withdrawn, the hair often comes out with it. If effort is required to remove the hair, the follicle has not been destroyed. Not more than four or five hairs should be removed at one time. Growths are removed in a similar way. This method is especially applicable to marginal tumors of a benign character, whose surgical removal would also involve removal of the lashes.

DIATHERMY: MEDICAL AND SURGICAL

Medical diathermy is the production of heat in the body tissues by high frequency currents; insufficient in amounts however, to produce temperatures which would destroy the tissues or impair their vitality. In experiments using diathermy, infra-red and the heating pad, it is shown that diathermy produces the greatest elevation of temperature (600 milliamperes). The ratio for diathermy was 3 C. and for infra-red 2 C. in excess of the heating pad. Special lamps have been recommended by Park Lewis, Burdick and many others. The carbon lamp seems to be practical and cheap. We have found it very effective in home treatment where local application of heat is indicated.

For medical diathermy, the short wave diathermy apparatus produces alternating current, whose frequency lies within a range of 10 to 100 megocycles (1,000,000 cycles) per second. Such a machine will also generate radiant energy, whose frequency is that of the alternating current generated. The ammeter readings are uncertain and cannot be depended on. The true heating current is always less than the ammeter reading. Reliance must be placed on the tolerance of the patient and the sensation of warmth. The electrodes must not be in contact with the skin. This makes for a more uniform production of heat in the tissue. With contact electrodes, the greatest heat production is in the skin and subcutaneous tissue in the vicinity of the electrode. As the electrodes are moved farther and farther away from the skin, the selective heating of the part near the electrode is replaced by a more uniform heat distribution. This makes short wave therapy preferable if the deeper tissue is desired without material peripheral heating. In place of using the term frequency to designate the type of radiation produced, the term wave-length can be used. The radiation from the machine travels with the velocity of light of 300 million meters per second. Since frequency is the number of waves of radiant energy generated per second, the wave length is equal to the velocity divided by the frequency. Thus, a frequency of one megocycle per second equals in wave length meters, 300 longwave diathermy. Ten megocycles equals 30 wave length of short wave diathermy, etc.

Most authorities use six meter wave length and comfortable heat. Birch-Hirschfeld[3] uses a 19 volt ray for ten to 15 minutes. No anaesthesia is used beforehand. In painful diseases he begins with five or six minutes and uses it every day or every other day. The great advantage of short wave is its painless application and pain relieving qualities. One must be careful to keep in constant touch with the patient while the short wave is being administered, as he may feel comfortable at first, and then be getting too much heat later. He must be questioned as to his comfort from time to time. The uncertainty of estimating the true heating current and the possibility of deep burns in the tissues with poor blood supply (vitreous) must be placed on the debit side. Birch-Hirschfeld[3] reported 94 cases in which it was used. Fifty-seven were classed as very good results; 24 as good, and nine negative. His

best results were obtained in interstital keratitis, acute inflammation of the lids and tear-sac and in trigeminal neuralgia. He had most satisfactory results in 15 cases of exudative choroiditis.

G. Hausmann[4] was not so sure about his results. He questioned whether the short wave was responsible or some other agent he used. He admits that he has never seen the short wave do any harm, or even produce irritation. Neither was he able to confirm the findings of Carlotti, Jaquet and Roland, who described enlargement of the blood vessels, hemorrhages and stopping of the arterial buds. Of interest are five cases of post-operative infections. Two severe ones were not influenced. One case of hypopyon, appearing five days after cataract extraction, healed promptly after the use of short wave and milk. In two cases of chronic inflammation following operation, one was benefited. Two cases of herpes of the cornea healed in two weeks, with no other treatment than hot water and atropine. This corresponds to the results of Grueter, Decker and Arendt. Two cases of phyegmon of the sac cleared rapidly. On one, a West operation was performed nine days later. He finds the best effects in deep seated, acute infections. This seems to be the general opinion, especially as to orbital abscess and sac inflammations.

W. Gutsch[5] finds the short wave of especial value in tear-sac infections and orbital and lid abscess; these conditions showing quick improvement. For corneal conditions he has not found it useful, except in interstitial keratitis. He advises the dose to be of comfortable warmth and applied for six to 15 minutes, with a minimum of 48 hours between doses.

With penetrating, short wave ultra red light, focusing with Vogt's ultra red filter, H. Wagner[6] was able to see nodes and efflorescences in the pupillary space, diagnosed with the slit lamp as tuberculous nodules, disappear. The objective findings were hyperaemia of the iris and slight iris swelling, first pigmentation and then final disappearance of the nodes in a few days. A large tubercle of the iris became deeply pigmented and eventually much smaller after use of the rays. In two cases severe reaction occurred, but finally disappeared. He was not able to offer any explanation for the beneficial affects.

Some interesting experimental studies on the effect of short wave on normal and infected rabbits were made by H. Scheyhing[7]. He found that

(1) Normal rabbit's eyes were not harmed, even with prolonged short wave application; nor was there any delayed damage after several months. The temperture was 17 and one half.

(2) Raising the heat to 18 causes passing opacity of the corneal surface and permanent burning of the lids.

(3) Short wave has beneficial effect on staphylococcus ulcers. The ulcers heal quicker and leave less scar.

(4) Experimental herpes of the cornea healed quickly, whereas the control did not.

(5) Staphylococcic pus in the anterior chamber healed. The controls do not and result in opacity and destruction of the eye.

(6) Vitreous infected by staphylococcus is not influenced.

He concludes that, from these and clinical experience, it is shown that most cases of abscess of the lid, tear-sac, epithelial forms of herpes corneae, superficial punctate keratitis and exudative rheumatic iritis are benefited. The more acute the process, the better the results. He uses the Sieman's tube apparatus with a wave length of six meters.

In summing up the benefits to be derived from short wave therapy, it seems that all authorities agree that the more acute the inflammation or infection, the more benefit one may expect. Another thing on which all seem to agree is its special value in affections of the tear-sac and abscess of the lids. Quite a few have found it useful in herpes and in interstitial keratitis. Of the other diseases mentioned, there seem to be only scattering reports, not verified by additional evidence.

Short wave has been employed by Neymann and Osborn to elevate the body temperature. The temperature is kept at 105 F. for five hours. It has been suggested that it be used to replace malaria in the treatment of syphilis.

SURGICAL DIATHERMY

This means the production of heat in the tissues by high frequency currents of such a degree as to cause destruction of tissues. Its chief use has been in retinal detachment. In our experience it has surpassed any other means of correcting this condition. I do not believe that it is either necessary or advisable to use pins or any sort of stop needle, for several reasons. The main one is that one would have to have different length stops for the needles, since the sclera varies in thickness at different points; and how could one know exactly which one to use and where. For, if one used a certain length pin at, for example, the region close to the attachment of the tendons, where the sclera is at least a millimeter thick or more, it would perforate the sclera, choroid and retina if used close to the equator, under the tendon, where the sclera is less than one

half as thick. In using diathermy puncture for detachment, one can easily acquire the feeling by the sense of touch with practice, when he has gone sufficiently deep into the sclera. For the younger men, I would advise practicing this on animal eyes to learn how easily this sense can be developed.

Diathermy has also been recommended for the obliteration of cicatricial bands for stopping hemorrhage in evisceration of the orbit. It has also been advocated for the cure of marginal chalazion, although, in my opinion, a V-shaped excision with the scissors is to be preferred. Some use it for removal of wild hairs. Here again, electrolysis is to be preferred.

IONTOPHORESIS

By iontophoresis is meant a method by which drugs are introduced into the body by means of an electric current. Galvanic current, which is uniformly constant is used, in one direction and at low tension, The rate of flow is from one to 30 milliamperes at a voltage up to 70. One may use the current from dry cell batteries or from a dynamo, but that from the batteries is more even. The principle is to transmit ions of a certain chemical composition by means of the electric current so that they may be brought in contact with the tissue ions and intra-cellular organisms; or, the breaking up of the atoms of the chemical to be introduced by losing or gaining one or more of its electrons. The principle is based on Faraday's law, under which (1) the quantity liberated at the anode or cathode is proportional to the current passed, and (2) the quantities of different substances liberated by the same quantity of current are proportional to their chemical equivalents.

Failures may be due to improper technic, formation of insoluble compounds with the plasma and neglect of safety rules in the use of the galvanic current. The best results are obtained using two to three milliamperes per square centimeter, for the duration of two to four minutes. The current should be turned off gradually and the metallic part of the electrode must not touch the tissue, as it has a caustic effect. The smaller the opening of the electrode, the more concentrated it will be and consequently the less dose given. The pain following iontophoresis lasts from three to nine hours.

Leduc published his results nearly 40 years ago, and Traquair[5] reported the successful use of the method in 1911, which included 15 cases of pneumococcic infection, two cases of diplobacilli, one pneumococcus and streptococcus and one sarcinae, all of which responded favorably. Arruga found that corneal ulcers cleared up with three applications of one percent optochin by means of iontophoresis, applied two to four minutes, using a three milliampere current. Leech and Cooper treated two cases of corneal dystrophy successfully, using quinine bisulphate. The vision improved in one from 20/100 to 20/20 after 14 treatments; and from 20/50 to 20/20 in the other after 24 treatments.

Some most interesting experiments have been reported by G. Erlanger[6]. He found that the tension may increase up to 50 mm. of mercury and then fall to five to eight mm. of mercury. Under influence of the galvanic current certain drugs have a special action on the autonomic nervous system, developing, under certain favorable conditions, characteristics which we may call electromotor or electro-kinetic effects.

(1) Miosis always sets in after iontophoresis and is the expression of a temporary reaction of the para-sympathetic nervous system.

(2) Prolonged duration of the specific action of the drug.

(3) Changed balance between the parasympathetic and sympathetic nervous system.

He used two to three millamperes of current not exceeding three minutes, and experimented with atropine, acetylcholine, prostigmine and adrenaline.

Clinically, he found that adrenaline iontophoresis in one to 2,000 or one to 10,000 solution; or a mixture of calcium chloride (1-300) with two or three drops of adrenaline prepares the iris for a stronger action of the subsequent atropine instillation. Prostigmine has the same effect as acetylcholine: stimulation of the para-sympathetic nervous system. In experiments with acetylcholine and adrenaline, one overcomes the effects of the other, but the adrenaline predominates. The pupil dilated with atropine can be brought down with acetylcholine in a few minutes. This is important.

The galvanic current has been used for many years in the treatment of paralysis of the ocular muscles, but its results are questionable. I have used it in many cases and have never been convinced that it had any influence whatsoever on the condition.

Electrically controlled heat in the treatment of corneal ulcers is of great value. The thermophore, devised by Shahan, is indispensable in the treatment of progressive, infected ulcers of the cornea; especially where they have progressed to the stage where hypopyon has developed. Shahan has found that a temperature of 158°F. applied to the surface of the cornea for one minute will be sufficient to destroy the organisms producing the ulcer without destroying the corneal tissue. The eye must be thoroughly anaes-

thetized, the lids held apart by the assistant and the patient instructed to gaze at a spot so that that part of the cornea where the instrument is to be applied will be exposed. Someone other than the operator, watches the time to tell when the one minute is up, since he has to keep his eye glued to the instrument on the cornea, in order that, should the patient move his eye, the instrument will not slide over another area of the cornea and denude further the epithelium. The epithelium is killed at 130. The cornea will resist 190; the minimal thermal death of pneumococci is 152; so that 158 was selected as the temperature to be used for the thermophore.

RADIUM AND X-RAY

The effect of radiation on cells is first, an arrest of their reproductive activity and then their degeneration by chromotolysis and vacuolization and their eventual destruction. This is directly proportional to mitotic activity and the degree of differentiation, so that malignant cells can be affected while other cells are not. Thus, if a neoplasm cannot be destroyed, it can be made quiescent. Blood vessels show obliterative endarteritis, and thrombosis is common. For this reason, radium or x-ray are beneficial in opacities of the cornea where there is vascularization. We know that the prognosis for a favorable result from resection of the scar, or transplantation of corneal tissue in a vascular cornea is not good. Wherever there is vascularity there will be formation of connective tissue, which always means more scar. If, after transplantation or corneal peeling, we apply an erythema dose of x-ray shortly after the operation, while the new blood vessles are still young and active, the chances of their becoming obliterated are good; whereas, if we wait with the application of the x-ray, it may be too late. We sometimes perform a peritomy as a preliminery procedure for these operations, giving the x-ray dose within a few hours after the peritomy, thus reducing the vascularization before the main operation.

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Shock Therapy in the Affective Oisorders*

MOORMAN P. PROSSER, M.D.
Central Oklahoma State Hospital
NORMAN, OKLAHOMA

About six years ago the shock treatments of Sakel and Von Meduna were introduced into American psychiatry, the discoverers making the rather extravagant claims of 70 to 90 percent "cures" in schizophrenia. That insulin and Metrazol are useful in the treatment of schizophrenia is no longer questioned, but American statistics indicate that only 25 percent of schizophrenics so treated enjoy a remission of any real permanence. This is a great improvement over any previously known form of treatment, but the search for the cause and effective treatment of dementia praecox must still go on.

In 1938 the Metrazol convulsive therapy, introduced by Von Meduna, began to enjoy a wide usage in the treatment of mental diseases other than schizophrenia. Numerous reports upon its use in the affective disorders have appeared since that time; and like the early reports upon schizophrenia, the recovery rate seems almost incredibly high. At the present time, shock therapy is being employed freely in the involution psychoses and the manic depressive psychosis, and a definite temperate optimism is reflected by those who use it.

At the Central Oklahoma State Hospital, the shock therapy of affective disorders has been most encouraging. During the past three years we have treated 34 cases of involutional psychoses and 20 manic depressives. While others have reported the treatment of groups as large as ours, no attempt has been made in the literature to analyze the treated cases as an aid in prognosis.

It is my object to summarize our observations in these cases and offer our impressions of the criteria on which to select the most effective treatment, and base the ultimate prognosis. (Table I).

Briefly stated, we found 20 (or 60 percent) of the 34 involutional patients treated with Metrazol to enjoy "social recovery," or recovery. One of these relapsed after 19

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TABLE I
Affective Disorders Treated with Metrazol Shock

	Number of Patients Treated	Recovered or Socially Recovered	Improved	Not Improved	Discharged from Hospital Following Treatment	Continuously Remained Out of Hospital Following Treatment
Involutional Psychoses (Total)	34	20 60%	9 26%	5 14%	29 86%	22 68%
Melancholic Type	27	19 71%	6 22%	2 7%	26 96%	21 77%
Paranoid Type	3	1 33%	1 33%	1 33%	2 66%	1 33%
Paranoid and Schizoid Features	4	0	2 50%	2 50%	1 25%	0 0%
Manic-Depressive Psychoses (Total).	20	14 70%	4 20%	2 10%	14 70%	12 60%
Manic Phase	13	10 80%	2 14%	1 7%	10 80%	9 70%
Depressed Phase	7	4 58%	2 28%	1 14%	4 58%	3 42%

May, 1938 to May, 1941.

months at home, but following a second course of Metrazol was able to resume her business and domestic duties as well as before.

Nine more patients showed marked improvement, making a total of 86 percent who were benefited by treatment. Not all of this last group maintained their improvement, and many were given a second course with rather desultory results.

Only five of this group showed little or no response to treatment, and of these, four displayed definitely schizoid reactions. Indeed, had one of these patients been 30 years younger, she would have been diagnosed as a Catatonic Praecox.

The duration of the illness prior to treatment is found to have little effect on the prognosis. One patient who enjoys an excellent remission of three years' duration had been mentally ill for 11 years before treatment was started. Another had been ill ten years and another seven, both recovering satisfactorily while on treatment. This is in sharp contradistinction to Schizophrenia, where the incidence of response to treatment is closely correlated with the duration of mental symptoms.

Of much greater importance to the prognosis is the psychic content. In selecting cases of the Involutional Psychoses for Metrazol treatment, we have found that the melancholic type offers a much better prognosis than the paranoid type. For practical diagnostic purposes, however, many patients present symptoms of both types and a few conform to the classical description of neither. (Table II).

It is therefore our impression that we may obtain greater prognostic accuracy by studying the nature and intensity of the symptoms present in each individual psychosis. The involutional patient is usually found to have three or more of the following symptoms, each present in varying degrees. These symptoms are:

1. Hypochondriasis.
2. Retardation and depression, with suicidal drives.
3. Delusions of guilt, with self-accusation.
4. Delusions of persecution.
5. Hallucinations (schizoid).
6. Cerebral arteriosclerosis.

In our series of cases, those illnesses marked by hypochondriasis, depression, and self-accusation, offer the best prognosis with therapy.

In those with pronounced paranoidal trends overshadowing the depression and feelings of guilt, the prognosis is less favorable. In these, the outlook grows progressively worse as the paranoidal features increase and the retardation decreases.

Those involutional psychoses presenting active hallucinations respond least to therapy, and schizophrenic symptoms seem to hinder and complicate the therapeutic response. In such cases a combination of insulin and Metrazol therapy appears to be indicated.

Cerebral arteriosclerosis serves only to re-

tard the patient's recovery, and sometimes the confusion of arteriosclerosis is mistaken for psychic retardation.

Metrazol has no beneficial effects on arteriosclerosis, and this katabolic change in the blood vessels only makes the treatment more hazardous.

While Metrazol or electric shock appears to be the method of choice in the involutional psychoses, insulin is used as a profitable adjunct in treating the manic depressive disorders. (Table III).

Of the 20 cases of manic depressive psychoses treated, 13 were in the manic phase, and seven were depressed. At first we used Metrazol alone on both groups, because of the greater convenience and safety. But while Metrazol quickly dispelled the depression, we found in one case that the patient went from a depressed to a manic episode. In treating patients in the manic phase, Metrazol appeared to stimulate them and aggravate their overactivity. It should be noted at this time that no manic depressive patient received treatment who had been ill less than four months, the average duration of illness being nine months. Since all cases were chronic in nature, the figures are even more significant, as the chance for an early spontaneous recovery was small.

In three cases in the manic phase we employed insulin shock alone, without results. When insulin was supplemented by Metrazol, the patients quickly responded to treatment. In four other manic patients who were progressing satisfactorily on the combination treatment, Metrazol was experimentally discontinued and they immediately became worse.

One patient who did not respond to Metrazol alone responded well to the combination treatment. When treatment was discontinued the patient quickly relapsed and again became acutely excited. Metrazol shocks alone effected a very rapid recovery in her subsequent attack though it seemed ineffective in the first attack.

Statistically, of the 13 manic depressive, manic phase patients who received shock therapy, ten made a clinical recovery within

TABLE II
Clinical Response of the Involutional Psychoses to Metrazol Shock

	Total Number Treated	Average Duration of Illness Prior to Treatment (Months)	Number Patients Who Left Hospital	Average Stay in Hospital After Treatment (Months)	Number Who Returned to Hospital	Number Patients Given Second Course of Treatment	Average Number of Shocks Per Patient	Recovery ++/+/O
Involutional Psychoses	34	23	29	1.8 (¼-4)	7	12	9.4	20/9/5
Melancholic Type	27	26 mo. (3-129)	26	1.5	5	7	7.5	19/6/2
Paranoid Type	3	15 mo. (7-26)	2	2.4	1	2	9.0	1/1/1
Paranoid and Schizoid Features	4	6 mo. (2-9)	1	9.8	1	3	17.6	0/2/2

May, 1938 to May, 1941.

TABLE III
Response of the Manic-Depressive Psychoses to Metrazol Shock

	Total Number Patients Treated	Average Number of Previous Attacks (Hospitalizations)	Average Duration of This Illness — Prior to Treatment (Months)	Number Who Left the Hospital After Treatment	Average Stay in Hospital After Treatment (Months)	Number Who Returned to the Hospital	Number Who Received a Second Course of Treatment	Average Number of Shocks Per Patient	Recovery Rates ++/+/O
Manic-Depressive Psychoses	20	3	7 mo.	14	4.2	1	2	10	14/4/2
Manic Phase	13	3.4	9 mo. (4-18)	10*	2.4	1	2	9	10/2/1
Depressed Phase	7	1.3	3 mo. (1-9)	4	7.5	0	0	12	4/2/1
*With Schizoid Features	4	0.4	8 mo. (3-18)	1*	14	1	1	17	0/2/2

*From Both Manic and Depressed Groups.
May, 1938 to May, 1941.

six weeks after treatment was begun. Nine of these ten are at home and have remained well since treatment. One relapsed in seven months, was given a second course of treatment and is now at home. Two are in good condition, are actively employed in the hospital industries, but have not left the hospital because of unusual and unfavorable home situations. The one patient who did not recover had prominent hallucinations and other schizoid features, and his mental illness was of long duration.

Of the seven patients suffering from the depressed phase, four recovered and are at home. One, treated with Metrazol alone, entered a manic phase from which she recovered on a combination of insulin and Metrazol, and one patient failed to respond to extensive combination shock therapy. This last patient displayed prominent schizoid tendencies and there was some question whether to diagnose her as a depressed manic or a hebephrenic praecox.

In conclusion, the affective disorders (the involutional psychoses, and the manic depressive psychoses) respond exceptionally well to insulin and Metrazol shock therapy. Those cases characterized most completely by symptoms of emotional and motor disorders respond more readily, while those with disorders of thought and perception respond less favorably. Schizophrenic trends should warn one to give a poor prognosis, while arteriosclerosis and other organic changes of the brain make it impossible for the patient to recover wholly.

The duration of the psychosis does not appear to have any marked influence on the prognosis in the affective disorders, though it markedly changes the outlook in schizophrenia.

Affective disorders characterized wholly by depression respond best to Metrazol alone, while those with symptoms of excitement, euphoria, and psychomotor hyperactivity seem to require insulin shock and respond most quickly to the combination of insulin and Metrazol.

Shock therapy is the treatment of choice in the entire group of the affective disorders, serving to shorten the duration of the illness and greatly decreasing the period of hospitalization. It is yet too early to know if it will have any influence on the recurrence of manic depressive episodes.

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The Significance of Detailed and Accurate Ophthalmological Information and Its Interpretation as a Factor in Neurological Diagnosis*

MEYER WIENER, M.D.

ST. LOUIS, MISSOURI

I wonder how many of those present who are in the general practice of medicine, or specializing in Neurology or Neuro-Surgery are accustomed to receiving comprehensive and revealing ophthalmological reports. From by own experience in reading the case histories found in the hospitals where I have worked, I must confess that I am far from being gratified with the showing made by my fellow ophthalmologists.

The ophthalmologist is usually the first to be consulted in pre-chiasmal lesions and chiasmal lesions and must be vigilant for the ocular syndromes. The internist and neurologist is generally first sought for advice by one with a lesion of the tract and radiations. He relies, however, on the ophthalmologist for help in the localization of the morbid change. The otologist plays a less important part. All should be familiar with the possibilities of ocular manifestations in the many and varied conditions which constantly present themselves clinically.

If these statements are not exaggerated, then one can easily understand the absolute

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necessity for accurate, detailed reports. When an internist dictates his findings in examining a chest or abdomen, he is not satisfied with having recorded the flat statement that nothing abnormal was found. Yet this very equivalent is too often read into the eye man's record in examining the fundus. The internist carefully outlines the various organs, detailed heart and lung sounds, recording the results of percussion and asculation, regardless. The average oculist does not do this. With him it is usually a matter of reporting only the end results of his examination.

I would urge the necessity of a thorough, systematic, routine examination of the external eye, muscular movements and balance, fundus and fields; and what is more important, to record these detailed findings, even though they be normal, and incorporate them in his report. What may appear normal today can assume a different aspect within 24 hours. This is especially true in certain neurological cases. I have seen a definite blurring of the disc margin in a case of encephalitis on one day disappear entirely the next, and manifest itself again after an interval of normalcy of several days or a week or more. We are all fully aware of the fleeting characteristics of the symptoms and signs in general sclerosis.

This detailed description should include mention of the width of the palpebral fissures and of the lid movements and closure. In observing the pupils, we must always bear in mind the knowledge that even the normal pupil can vary in size and reaction under different circumstances. For example, age is a factor. The infant's pupil is very tiny. In youth it is quite large, and in old age reverts back to type to become very small again. This is of importance in more than one disease. For example, one finds larger pupils than usual in old people with high blood pressure. This is not constant, but makes one suspicious. Again: should one find an old man who comes to you with cataract, and has large pupils, especially if they are unequal, be on the lookout for the complication of glaucoma, for the very reason that the pupils of the old are normally small. The size of the pupil varies with light, accomodation, heat or cold, sleep, excitement. All of these changes are physiological and must be taken into consideration in summing up our findings.

Another factor not to be overlooked is the possibility of the pupil being affected by drugs, taken either internally or instilled locally. One morning, quite a few years ago, I was called to the phone by an officer of one of our large wholesale houses, who informed me that one of their executives who had left my office a short while before was acting like a madman and was being restrained with difficulty by several men at the store. I went over immediately and realized that something more than the homatropine, which had been instilled in his eyes at the office was having its effect. Repairing to the drug store where the prescription had been filed, I questioned the chief clerk, who insisted that there had been no mistake; that he had filled the prescription himself. I demanded to see the bottle from which it was taken, whereupon he took it down, turned white and gasped "My God: Hyoscin." A lawsuit resulted in a judgment against the drug store.

A notation on the sensitivity of the cornea should be included in the eye report to the Neurologist. Also, the amount of protrusion of the eye should be measured on the exophthalmometer. A systematic, routine examination of the fundus, with accurate recording of all observations, normal and otherwise, is absolutely essential. I have seen an expert Neuro-Surgeon diagnose optic neuritis in a case where the disc was perfectly normal, but did not appear normal on account of haziness of the cornea and lens, which he had not observed, because he had not examined the media at a distance before looking at the fundus by the direct method. The slight opacity in the media made the disc look red and the margins blurred, just as the sun looks red and blurred through a mist or through smoke.

After the media have been examined and the findings recorded, the next in order is the disc. This includes size, color, and contour, and surface level. By that, we mean any swelling or depression natural or otherwise. There are so many congenitally, physiological variations from the usual in the appearance of the disc that it would take much more than the alloted time to describe these, alone. What I wish to impress particularly is that all of these findings, whether usual or otherwise, must be described and recorded in detail. For, when a pathological condition is superimposed on an unusual congenital anomaly, it is of unquestioned value to the examiner to have knowledge of its existance. I may mention one example. I was asked to examine a young boy who was under observation for an obscure ailment. When the Neuro-Surgeon examined him, he phoned me to request an immediate fundus examination. I told him I thought I knew why he was disturbed and my surmise proved correct. He had observed tortuosity of the veins in the retina, which I told him, in advance, that I had observed and recorded during routine examination for refraction several years before, and which I found had not changed with the years.

After the disc findings have been recorded, we systematically search for lesions in the retina and choroid. If one follows each main branch of the arteries and veins in turn, with their small branches, he cannot fail to find hemorrhages, exudates and the like, for they are deposited along the vessels. The macular area is next in line and then come the vessels, whose size, color and contour are noted. This means not alone actual, but relative size as well.

I have seen reports containing merely the fact that choked discs were present and the amount of swelling in each. That is not enough, because, unless a minute descriptio of the disc, the immediate surroundings of the disc, including the size and location of each individual hemorrhage is revealed, it is not possible to follow the course of the condition to tell whether it is progressing for the better or worse. In former years there was much discussion as to whether the side of the greatest swelling was the side of the tumor, or the opposite. Now w know that the amount of swelling has practically nothing to do with the location of the tumor, as regards the right or left side. In fact, it was clearly demonstrated some years ago by Walter Parker that the greater swelling in one eye was due to a lower intraocular tension on that side, thus offering less resistance to the pressure from behind.

Brain tumor is not the only condition which can produce edema of the optic nerve, or condition resembling choked disc. I have seen a choked disc of six to eight diopters, no retinal hemorrhages, and retained central vision from essential high blood pressure, autopsy verifing the diagnosis. Many feel that they are able to differentiate choked disc and optic neuritis from the fundus picture alone. There is no doubt but what we can be fairly sure of this difference in many cases, but there is one thing essential to make sure, and that is the central vision. In choked disc the central vision is affected late, while in optic neuritis it is an early accompaniment. Many authorities question whether one can have choked disc in sinus disease. Under certain conditions I believe this is possible; although, in the vast majority of cases, the findings are those of retrobulbar neuritis with most of the remainder optic neuritis. In choked disc, we have an edema of the nerve head in the beginning, with few hemorrhages or exudates, a translucent nerve head swelling and retained central vision. Here is where careful field recording is of the utmost importance, because the central field is lost very early in optic neuritis, whereas the contrary is true in choked disc. The appearance of the disc in optic neuritis is more murky looking, as one would expect from an inflammatory condition.

The appearance of the fundus gives us little or no clue as to the nature or location of the lesion. Choked disc, while generally indicating a lesion behind the chiasm, can manifest itself in chiasmal tumors under certain conditions, or even tumors in the forebrain, providing pressure is exerted on the third ventricle. Although the field of vision usually helps locate the site of the lesion, it does not necessarily do so. The lesion may be due to a new growth, inflammatory, or vascular. Sometimes the ophthalmologist can help decide which.

Peripheral fields may show us little or nothing in the early stages of brain lesions. Fields taken on the tangent screen magnify sufficiently to reveal pressure or inflammatory lesions very early. The earliest type of prechiasmal lesion is a relative scotoma. A unilateral central scotoma is necessarily prechiasmal. A bilateral central scotoma, if chiasmal, would not involve the entire central field. An upper temporal notching may be due to a prechiasmal lesion. This may appear first on one side only, but eventually, both will be involved. In fact, there is usually more indentation on one side than on the other in the beginning. Many think of chiasmal fields in terms of bitemporal hemianopsia. While this is almost pathognomonic, one may have hemianopsia in chiasmal tumors, providing the pressure is exerted on one side of the bifurcation, either on, or back of the chiasm. This can be differentiated from the homonymous henianopsia due to lesion in the tract, because central field is retained in the latter.

If we should find, in the beginning, a normal field for white, with merely red and green quadrant notchings, look for a lesion in the optic radiations or in the optic perception center. In the latter, they are apt to be more symmetrical, whereas those in the radiations tend to be somewhat bizarre. In addition to their being more symmetrical in tract lesions, there will be retention of the central field.

Many field defects are due to vascular grouping in the circle of Willis, rather than to the group itself. Aneurism of the internal carotid or the circle of Willis may cause unilateral loss of vision or homonymous hemianopsia, intermittent ophthalmopegias or pains in the distribution of the upper branches of the trifacial nerve. Transitory symptoms are often the result of recurring hemorrhages from the aneurism. Aneurism of the anterior cerebral will show unilateral loss of vision. The posterior communicating branch will show a homonymous hemianopsia. It can only be proven surgically. The symptoms are intermittent; last a few days,

with a remittance and then recurrence. Later come symptoms of extension with involvement of other nerves in that region.

Sphenoidal ridge meningioma is a very slow growing tumor, frequently showing exophthalmos, loss of vision and choked discs. Pressure or erosion may cause involvement of the third or anaesthesia of the first branch of the fifth. The diagnosis can be made from the x-ray pictures, as they will reveal sphenoidal ridge erosion, calcium deposits in the tumor and increased density of the soft parts.

In suprasellar cysts, loss of vision and bitemporal hemianopsia with choked disc, are the result of the growth expanding upward above the dura and causing increased intracranial pressure. There will also be erosion of the sellar, and calcium deposits in the tumor.

Vail has reported seven cases of syphilitic arachnoiditis of the chiasm with rapid failure of vision, chiasm defects in the field, mixed type of optic nerve atrophy, with serological proof of syphilis. Three of these cases had been diagnosed by neurologists as tabes. Improvement in one case followed removal of the membrane around the optic nerve. He recommends surgery before the nerve is too badly injured. He holds the mixed form of optic nerve atrophy as a combination of atrophy and neuritis, to be pathonomonic for achroiditis of the chiasm. Arachnoiditis of the chiasm is not necessarily syphilitic. Neuro myelitis optica may give rise to similar symptoms and signs, but there is accompanying fever and peripheral signs of a myelitis. The presence of peripheral sensory and motor manifestations is pathognomonic of the disease.

In frontal lobe tumors, there may be no physical eye signs for a long time, and possibly not at all. If the growth gets so big as to spread backward and increase the intracranial pressure then one may get choked discs. On the other hand, before this happens, one can have a pressure atrophy of the nerve on one side, with a choked disc on the other. Persistent, very severe headaches with no apparent cause should always make one think of the possibility of frontal lobe tumor.

The optic tracts pass between the temporal lobe and the cerebral peduncles; therefore may be affected by either direct or indirect pressure. The differential point of diagnosis in the fields is that the field in tract lesions is incongruous. Also, in a tract lesion there may be loss of the pupillary reflex, which would not be the case if the lesion lies behind the posterior geniculate body. Because of the anatomic arrangement of the visual fibers in the optic radiations, a lesion in the right temporal lobe (optic abscess) will cause a left quadrant hemianopsia, affecting the upper quadrants of the visual fields. A lesion in the substance of the temporal lobe may produce a complete homonymous hemianopsia, a quadrant hemianopsia or homonymous scotomata.

Lesions of the lateral surface hemisphere produce disturbances of the higher visual sensations with intact visual sensations. These lost sensations may involve sense of depth, orientation, visual attention or agnosia. It is thus seen, that it is not only necessary to examine the central visual acuity when a patient complains of visual disturbances, but the higher visual sensations as well. I have seen a patient come in complaining of not being able to read. When tested with the chart for distance and near, his acuity was normal for distance and near. The peripheral fields were normal; but the central fields, taken on the tangent screen, revealed a right, homonymous scotomata, leaving the central point for fixation intact. This, coming on suddenly, meant a very small hemorrhage in the visual center.

Again, we have children brought in who are poor readers, but who seem to be as bright, or brighter in other studies not requiring reading, than the average. It is not at all unusual, if we take the trouble to search, to find that the child is suffering from congenital word blindness. One can easily see how important it is to unearth these cases early, so that the child may be taught to use and develop the other side of his brain.

Cerebellar lesions cause ocular symptoms by indirect pressure on the brain stem, producing paralysis of the extra-ocular muscles. By irritation of the pathways of the eighth nerve one sees nystagmus. The nystagmus may be so fine that it cannot be observed on ordinary examination, but may be revealed on examination with the ophthalmoscope.

When the motor function of the eye is involved by paralysis of one or more of the eye muscles, one must think of a lesion in the brain stem, where these centers lie. Certain diseases of the nervous system have a predilection for these nuclei, such as tabes, paresis, multiple sclerosis and myesthenia gravis, so that the possibility of one of these conditions causing the paralysis must be seriously considered. A hemorrhage in the brain stem may cause a complete third nerve paralysis on the side of the lesion with a hemiplegia and hemianaesthesia on the other. This can happen because of involvement in the mesencephalon of the root of the third nerve, the pyramidal tracts and the medial lemniscus.

Encephalitis may make its first manifestation by a transient muscle paralysis. In fact, in the early stage, most of the symp-

toms and signs may be of the fleeting type. I have seen a distinct blurring of the optic nerve head on one edge one day in encephalitis, with a perfectly normal disc the next day. A week later it may reappear as either a temporary or more or less permanent picture. Right here, one can see the necessity for accurate, detailed record taking; for what is seen one day may present an entirely different picture a few days later. Paralysis of some of the branches of the third nerve with sparing of others, points to a nuclear lesion. There may be disturbances of the associated eye movements, such as nystagmus or delayed spontaneous movements. In chronic encephalitis one often sees anomalies of the pupillary reaction, weakness of convergence and other bizarre ocular signs. The paralysis noticed in the acute stage may remain permanent.

Unilateral anaesthesia of the cornea accompanying nerve deafness may be the earliest sign in cerebellopontine neuroma. As the tumor progresses, the sixth may become involved along with choked disc, and involvement of the fifth and seventh. A peripheral involvement of the seventh always results in complete paralysis of the muscles of the face. Because of the bilateral supranuclear innervation of the facial nucleus for the ocular division, a lesion here will result in sparing of the frontalis and orbicularis muscles.

There is still much discussion as to whether sinus disease can produce retrobulbar neuritis, or rather, how many of the cases which we attribute to sinus disease are due to some other condition; particularly do I refer to multiple sclerosis . There is a growing movement to the belief that multiple sclerosis, although a rare disease, is too often overlooked, and that many of the cases of retrobulbar neuritis which get well following opening of the sinuses, would get well anyway without any operation; later developments proving the case to be multiple sclerosis. This is the stand taken by W. I. Lillie, who goes to the extreme and declares that sinusitis rarely, if ever, produces retrobulbar neuritis. I am certain that I have seen many cases relieved by opening the sinuses; cases which I have followed over a period of many years, and which never developed any further signs of multiple sclerosis. Opticochiasmatic arachnoiditis and neuromyalitis optico must also be considered. These we have already discussed. Baso-frontal tumor, toxic substances such as tobacco, alcohol, lead, hereditary diseases, diabetes and other general diseases may produce retrobulbar neuritis.

I have seen one case of retrobulbar neuritis start, just as one would expect it to in multiple sclerosis, in one eye. All physical, neurological and nasal examinations were reported with negative findings. The disease advanced until there was no perception for light and no reaction of the pupil to light. I insisted on the sinuses being opened on account of the history, which was that the trouble started with a cold. When the sinuses were opened, no pus or secretion was found. Nevertheless, within 24 hours there was perception for light with a gradual improvement in vision and in the field, until today, more than 15 years later, the vision is 20/40 in that eye with a field 2/3 normal in size. The disc is perfectly white and sharply outlined.

Another case came under my observation more recently. I was asked to see a young woman who, at the time, was totally blind, with no perception for light and no reaction of the pupils to light. She had been blind for two days. The history was that of gradual, then more rapidly failing vision; first in one eye and then in the other. At first, a positive Wasserman was reported; but on re-check both the blood and spinal fluid Wassermans were negative. In this case also, the sinuses were found to reveal nothing abnormal, either by nasal examination or x-ray. She also gave a history of the loss of vision following a cold. Her fundus, at the time I examined her revealed a swelling of both discs of more than four diopters, with hemorrhages and a few exudates. Here again was proven the fact that the chief differential point of diagnosis between choked disc and optic neuritis is that in the latter, one has early loss of central vision. The sinuses were opened, with neither pus nor secretion found. The vision began to come back within 36 hours, with continued improvement.

I cite these two cases to prove that not only must we be ultrascientific and record all physical findings, but we must have patience to listen to the patient's history and lend it sufficient weight.

I was always taught that, on account of their development from the same tissue, what one saw in the retinal vessels was merely a reflection of what one would find in the vessels of the brain. I still hold that opinion, although this stand has been open to question lately. Two years ago, Rintelen made a report of 45 cases before the Swiss ophthalmological Society in Basal. He was unable to corroborate the assumption that arterio-sclerosis of the retinal vessels is always associated with arterio-sclerosis of the cerebral, and vice versa. Voght, in the discussion following, still held to the former theory. There will probably be further discussion and enlightenment on this subject later.

I might be asked: "What about the gen-

eral practitioner and the neurologist. Do they always give us satisfactory reports?" My answer is "No": but it isn't always their fault. When we send a case for consultation and advice, it is incumbent on us to give him a detailed report of our findings and not merely the diagnosis. Also, we should tell him what we suspect and what we would like him to look for. This works both ways.

In closing, may I add that the ophthalmologist's report should contain, in addition to the accurate, detailed findings, a summary of the outstanding features, his impressions and, lastly, his recommendations.

The Pitfalls of the Cesarean Baby*

E. E. BEECHWOOD, M.D.

BARTLESVILLE, OKLAHOMA

The first successful cesarean section was performed at Middleton, Ohio, in 1827 by Doctor John Lambert Richmond with only a small pocket case of instruments and candle light. The mother lived, but the baby died. Since then there have been many advances in both surgery and obstetrics but the mortality rate of babies delivered by cesarean section remains high. The public has become accustomed to successful surgery in many fields and the death rate of mothers who have a cesarean section is low, so a great amount of attention has not been paid to the infant. It is now generally believed by the public and many physicians that any obstetrical difficulty can be remedied by a cesarean section with the utmost safety to all parties. Thus many operations are performed that are not indicated, and a great number of men are operating who have not had the proper training. Many factors contribute to the death of these babies. It would be wrong to place the mortality rate on any one factor, so I am dividing them into their respective fields; and first, I will consider the anesthetic, as this has a direct bearing on the child.

According to Heard[1], of Toronto, the safest anesthetic for the child is either spinal anesthesia or cyclopropane. The highest death rate he encountered was with ether and was only slightly better with nitrous oxide, oxygen with ether. These findings were not born out by Smith[2], of Boston, whose work was done on both maternal and fetal blood of cesareans. He found that the oxygen content of both mother and infant was higher during ether anesthesia, than with nitrous oxide and oxygen, and that the babies were easier resuscitated when ether alone was used than when any other anesthetic was used.

We have had 201 Cesarean Sections in the past 13 years at our hospital, and the type of anesthesia used has been ether, nitrous oxide, oxygen with ether and nitrous oxide and oxygen. Most of these received a gas induction and were later switched to ether vapor. Of this number, only five received nitrous oxide and oxygen and there were two fetal deaths in this group. Great difficulty was encountered in resuscitating two of these infants and it was necessary to use artificial means. We have not had this difficulty with ether anesthesia alone, and of the 201 cases I have been able to trace only one death to nitrous oxide and oxygen. The past few years our anesthetists have been switching the mother to pure oxygen about the time the surgeon makes his incision in the uterus. This gives an increased amount of oxygen in the maternal blood and most of the babies take on the respiratory reflex at once. It is evident that any form of anesthesia acts as a depressant on the baby, and while this depression may not be marked in full term healthy babies, it will create a hazard in premature and toxic babies.

Washington County Memorial Hospital has had a large number of cesarean sections and infant deaths in proportion to normal births since it was built in 1922, and I have abstracted the records since 1928. The figures listed will give you stillborns, prematures and all babies who died of cesarean sections the first two days.

1928	5	Cesareans	No infant mortality
1929	15	"	26.66 % infant mortality
1930	13	"	15.38 " " "
1931	22	"	4.5 " " "
1932	17	"	5.29 " " "
1933	13	"	23.3 " " "
1934	8	"	12.5 " " "
1935	13	"	7.7 " " "
1936	19	"	5.26 " " "
1937	16	"	12.5 " " "
1938	26	"	7.69 " " "
1939	24	"	8.33 " " "
1940	11	"	9.09 " " "

Making a total average of 10.57 percent

*Read before the Section on Obstetrics and Pediatrics, Annual Session, Oklahoma State Medical Association, May 20, 1941, in Oklahoma City.

for the 13 years. Taking the years from 1936 to 1941, there were respectively 1,271 normal births with infant mortality rate of 5.7 percent. The infant mortality rate of four representative hospitals of Oklahoma for cesareans was 1.7, 9.0, 9.5 and 21.9 percents. These figures included stillborns, prematures and newborn deaths. So it is apparent that a baby delivered normally has a greater chance of living than one by cesarean section.

There are other factors that enter into these infant deaths, as we ascribe only one to the anesthetic. If the baby is in good condition when an operation begins and is not injured by the anesthetic it must be injured by the type of delivery. In going over these cases I find that this has been a routine procedure in a vast number of these cases. The mother is given a cc. of pituitrin before the skin incision is made and by the time the uterus is opened it has had time to produce forceful contractions. An incision is made in the uterus and the baby delivered rather easily up to the head. At this point the uterus usually clamps rather snugly around the baby's neck and considerable traction is exerted on the legs of this infant in order to be able to extract the aftercoming head. I think that it is here that traction is exerted on a relaxed infant and that the tentorium cerebelli or cord is torn with resulting hemorrhage and respiratory failure. Excluding the stillborn and prematures, most of these infants who died were large healthy looking babies who breathed with difficulty, became cyanotic and died within a few hours to two days after birth. In this series of 201 births there were 14 deaths of babies whose condition was good when the mother was operated, with a death rate of 6.9 percent against 1,233 normal deliveries with a death rate of 3.1 percent. I have excluded stillborns and prematures in the above figures.

When one looks over these figures it is apparent that this abnormal method of delivery which is supposed to alleviate the dangers to the infant in reality increases its hazards. According to Brandberg[3], the mortality rate from classical cesarean sections was about 7.5 percent and was increased if the percentage was figured up to one month of life. He believes that if postmortem examinations were made that many more cerebral hemorrhages would be found.

In order that the health of the infant be safe-guarded, I think the following should be the basic principles in all cesareans.

1. No preliminary hypodermic or sedative except atropine.
2. Ether vapor with oxygen just before the infant is delivered.
3. No pituitrin before the infant is delivered from the uterus. An assistant can control any hemorrhage and there is no indication to stimulate the uterus before delivery of the baby.
4. Avoid haste in delivering the aftercoming head. Either place the fingers in the baby's mouth, lifting the feet with the other hand, employing a modified Smellie-Veit or by placing forceps on the aftercoming head. There is no great haste to extract the head as a small amount of aspirated amniotic fluid will not hurt the baby as eight to 15 minutes is considered normal in a breech extraction, you have plenty of time.

It is interesting to note that the average time for the surgeon to operate was 34 minutes. In most cases from the time the skin incision was begun until the baby was delivered was approximately four minutes. Considering the low maternal deaths from this type of operation, there should be no reason for such haste. I will cite two cases to bring out this point.

Mrs. M. L., age 26, white. Had a previous cesarean section two years before and had received adequate prenatal care with normal blood pressure and urine. She was given no preliminary hypodermic or sedative. Heart tones of baby were strong before going to the operating room. She was operated and delivered of a baby boy, vertex presentation, weighing slightly over seven pounds, two minutes after skin incision was made. The baby took on the respiratory reflex normally. Two hours later it became spastic, cyanosis developed at intervals, heart tones irregular, the child developed an expiratory cry, respiration slow and shallow, convulsions, died 17 hours after delivery. Mother made an uneventful recovery.

Mrs. C. L., age 34. One child previously with third degree laceration. Came to the hospital and stayed two days, having very slight contractions. Head remained high and fetal heart tones were good. Surgery was then advised and a five pound baby was delivered three and one-half minutes after the incision was begun. The baby was difficult to resuscitate, had slow irregular respirations after they were established, became cyanotic at intervals and died six hours after birth. Mother made an uneventful recovery and was dismissed on the twelfth day.

I have not been able to obtain statistics on infants who sustained birth injuries and lived and are a major problem for the pediatrist. It is not of any value to try and treat these injuries but we should try to guide the people so they will not occur. Too frequently the doctor is pushed into a surgi-

cal procedure which is not indicated, or which time and selected consultation could have prevented.

CONCLUSION

Cesarean section has a higher infant mortality rate than normal delivery.

We have found ether and oxygen to be the safest anesthetic for the baby.

No traction should be exerted on the aftercoming head except with forceps or by modified Smellie-Veit.

Haste is not essential in cesarean sections. It is the rapid delivery with traction on the relaxed baby which causes birth injuries and infant deaths.

The public should be advised of the danger to the baby and many operations could be avoided, thus saving a great many babies each year.

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Infection Among Selectees*

WILLIAM H. BAILEY, M.D.
Col. M.C., Chief of Laboratory Service Station Hospital
FORT SILL, OKLAHOMA

The new recruit is picked up out of civil life singly or in small groups of three or four, and sent for his first physical examination to the local medical examining board. Many of you are serving on these examining boards without any remuneration whatsoever, and you are to be complimented on this patriotic service that you are giving. This is an important link in the chain of physical examinations given the selectee, and is, in reality, an army function which I personally feel should be taken over by the army.

As soon as the selectee is accepted for service and put into larger and larger groups, he begins to pick up infections. Not many of these infections reach epidemic proportions, but all those who have not had some of the more contagious of these seem to pick them up very soon.

At Fort Sill these last few months it has been the "flu," German measles and mumps. You might have thought from your experience that every youngster in the country has had measles and mumps, but it is surprising how many, particularly those from rural communities, get these diseases after they get to camp. It is quite a unique medical experience to see a single group of 50 to 150 cases of mumps or measles at one time in these grown men.

In that number of cases of one condition you have an opportunity to see many unusual complications and atypical cases. In our mumps epidemic a few cases of orchitis occurred without the parotitis. These were not cases of gonorrheal orchitis and were probably a complication of sub-clinical mumps. One or two cases of suppuration of the parotid gland occurred in our mumps series. All kinds and degrees of rash have been seen in our measles cases. Initial luetic lesions have occurred that were multiple and had the gross appearance of chancroids, and yet showed the Treponema pallida on dark-field examination. Typical single chancres were seen in which repeated dark-fields were negative, and the patients did not subsequently break out in secondaries, nor did they develop a positive serology.

Then there are the groups of less frequent diseases that are continually occurring. Diarrheas occur in small groups of three or four. These are usually due to some dietary error, but any that last more than a day or so may be the beginning of a bacillary or amebic dysentery. One case of para-typhoid B. was found at Fort Sill this year. Malaria occurs more frequently than you might suppose. Only one case, however, has occurred in a soldier coming from a non-malarial state. It was not thought that he contracted the disease after coming to Fort Sill, although many of the Anopheles mosquitoes have been captured there.

Gonorrhea, syphilis, chancroid and lymphogranuloma inguinale continue to appear in too frequent regularity. Not a few of the initial lesions are atypical, as has been stated. Several extra-genital lesions have been seen, one chancre of the lip was found.

One or two cases of chicken-pox have occurred, and one case of scarlet fever. An occasional case of scabies is discovered, and numerous cases of pediculosis. Vincent's infections have not been very numerous. There have been no cases of diphtheria, epidemic meningitis or poliomyelitis.

Most of the cases of respiratory infection and "flu" have been mild, although there perhaps have been more cases in this group than any other. Several cases of both pneumococcic and steptococcic pneumonia have occurred with one or two deaths. There was

*Read before the Section on General Medicine, Annual Session, Oklahoma State Medical Association, May 20, 1941, in Oklahoma City.

one small group of pneumonia that we thought was possibly of the so-called virus type because neither pneumococci nor streptococci could be found in the sputum, and all the cases had a persistent leukopenia. Tuberculosis with T.B. in the sputum has been found a few times. These were probably arrested cases that had become activated, or they may have been mildly active cases that were overlooked in the induction examinations. A small epidemic of streptococcic sore throat broke out in one outfit.

Lastly, there is a small group of interesting conditions, which, although they may not all be infectious, are nevertheless interesting because, perhaps, they are not so frequent. Among these is leukemia. One case of acute lymphatic leukemia occurred which terminated fatally in about three weeks. One case of sudden sub-arachnoid hemorrhage. A case of streptococcic meningitis developing from a middle ear infection without any mastoid involvement. A case of bronchigenic carcinoma in a 40-year-old soldier, which eroded into a large blood vessel and had a metastatic nodule in the heart muscle. A gastric carcinoma in a 27-year-old negro. Diabetes, thrombocytopenic purpura, peptic ulcer, Hodgkin's disease, infectious mononucleosis and several other interesting heart and kidney conditions.

The list of nervous and mental conditions is not very large, but includes many varieties from mild psychoses to "plain nuts."

Injuries from accidents are quite numerous. The traumatic surgery wards are probably the most active on the surgical service. Numerous fractures, both simple and compound, occur. Gunshot wounds seldom occur on the firing range, but we have received some cases as the results of fights, as well as stab wounds. One fatal case occurred when a 75 exploded prematurely about 20 yards from the muzzle of the gun, and a shell fragment passed entirely through the skull of a member of the gun crew.

You can see from this brief account that the infections and other conditions among selectees are, as you might expect, practically the same as occur in civil life. There are more cases of some of the highly contagious infections because the recruits are brought together and remain in closer groups than in civil life. Atypical cases and unusual complications are seen more often because the number of cases is larger.

No matter what speciality of medicine you have been practicing in civil life, nor what assignments you may get when called into the service, you will find it a most interesting and valuable experience. The close association with medical officers from other parts of the country is, in itself, educational. You have the opportunity to compare notes with them and to become familiar with different methods of treatment. By far the larger number of the younger medical officers are exceptionally well prepared. It will fully tax the ability of the older men in the service to equal these younger officers in the knowledge of the more recent advances in medical science.

The regular army medical officers are well prepared medically and are much more used to handling large groups of cases. It has been my experience that most regular army doctors are not only willing but anxious to assist the civilian doctor coming into the service to adjust himself to army methods While we can give them much, we can also learn much from them, and you will be wise to seek their council frequently.

In gaining experience in handling large numbers of examinations in short periods of time, you will find that you will have to make your diagnoses rapidly. You will have to increase your power of observation, which will be to your gain. Small but characteristic signs and symptoms must be spotted quickly and a decision made. You may say, "that kind of stream-lined diagnosing is only guessing." Well, perhaps so, but you will be surprised how many of these opinions are correct and stand up when the case is reexamined by the hospital staff where more time for study and other diagnostic aids are available.

There is one feature of military practice that is not so satisfactory from a medical standpoint. If you happen to be assigned as a battalion or regimental surgeon, you will not have the hospital facilities to keep the seriously sick soldier under your personal supervision for treatment. It is a fundamental principle that the sick and injured must be evacuated out of the unit as soon as possible so that it may devote all its energies to its mission. Therefore the sick from these tactical units are usually evacuated within 24 hours to some established hospital. At Fort Sill this is to the Station Hospital.

Although the number of cases of infections among the selectees seems to be pretty large, when you consider that at Fort Sill we have a highly transient and ever changing population of some 20,000 to 25,000 soldiers, I believe it can be said that the incident of infection is low and that life in an army camp is on the whole a pretty healthy one.

You will, I am sure, enjoy your year of "extended active duty" service, and it looks now as if the accent may be on the "extended."

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• THE PRESIDENT'S PAGE •

We have recently seen in the press discussion relative to the physical condition of the youth of our country who have been called by the Selective Service Board for examination. It is apparent that there is a rather high percentage of those young men, who should be in the finest physical condition, who are not fit for military service on account of physical defects and, according to the reports from the Selective Service Boards, a very high percent of these young men could be rehabilitated.

This large number of unfit young men, found as a result of the present preparedness activity, is to a certain extent our fault. It is a notorious fact that we are not as persistent as we might be in our advice to have minor defects in children corrected.

Now, since this large number of those who have been examined and rejected as unfit on account of some disability of a correctable nature, these defects being largely dental pathology, hernia, and other malformations, it seems entirely reasonable that these young men should be given an opportunity to have their defects corrected and, as it is common knowledge that a very large proportion of these young men are not able to finance their rehabilitation, it should be a good investment on the part of our government to arrange to have their defects removed or corrected.

The formula for carrying out this suggestion should be easy. Almost every community in which there is a Selective Service Board has dentists and doctors who are able, capable, and willing to assist in returning these young men, so far as possible, to a normal physical condition, and it occurs to the writer that it would be as reasonable for our government to compensate adequately the men of the dental profession and our profession, who have been instrumental in returning the draftee to a condition where he would be physically able to serve his country, as it is for this draftee to be housed and clothed when in the service of his country.

If, and when, a motion is made by the government to rehabilitate these men, of course, the medical profession and the dental profession will be called on to do it. This will necessitate a uniform and properly coordinated effort on the part of our organization to see that the government's necessities are met properly and efficiently.

Finis. Bruning

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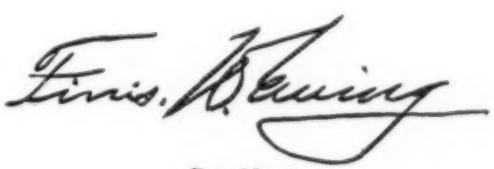

President.

EDITORIALS

REHABILITATION

Again the feeling hand of paternalism reaches out. Federal aid for Rehabilitation of Rejected Registrants is urged. General Lewis B. Hershey, Director of Selective Service, termed the physical status of American youth as revealed by Selective Service tests to be "shameful."

According to a recent Selective Service Bulletin, the Office of the Coordinator of Health, Welfare, and Related Defense activities has announced it will seek Federal financing of a vast program of rehabilitation on rejected men. What will the program be and how will it be carried out?

First: Is the physical status of the American youth "shameful?"

In his discussion on the Chicago Round Table of May 11, Doctor Rountree says that we are rejecting between 40 and 45 percent of the men coming up for physical examination between the local board examiners and the induction board examiners, and that 40 percent of those have bad teeth. About 12 percent of those examined are placed in class 1-B. These are registrants who have remedial defects.

Statistics for the state of Oklahoma indicate that of 8,524 registrants examined by the induction board, 22.43 percent were rejected. Out of the 190 rejections in July, 51 were for illiteracy or psychopathic tendencies.

During no previous time have the examinations for enlistment into the United States Army been so rigid, or the physical and mental requirements so high as they are today. During the first world war, even our present 1-B registrants were admitted for service.

In 1917 the military service accepted many men who were not physically or mentally fit. We learned a grave lesson from this mistake; and we are still paying dearly for it. Naturally then, the physical and mental requirements were raised for admission to our present military service.

Never have we had the means and the instruments of precision for the diagnosis of early and obscure abnormalities that we use today. Had these same complete examinations been available and required during the first world war, and the same rigid physical and mental requirements been adopted, would not the percentage of rejection have been much higher?

We are being told by some of the socialogists that this so-called "shameful?" condition of health is our fault. This we deny.

We have preached periodical health examinations, preventive medicine, and tried other means of health education until we are red in the face. But still those who need these services do not come in as long as they can work, or as long as they believe in Christian Science or other healing cults equally dangerous. It is difficult to change human nature.

Most of these rejected men have had adequate medical care available to them. Most of them have either ignored it or rejected it. How many of them will willingly correct these defects in order to fit themselves for military duty?

From the store of information being compiled by the Selective Service Headquarters, there will come out some most interesting statistics on the health of the Nation as interpreted through Selective Service physical examinations. As a result of this statistical survey, definite recommendations are going to be made to the social agencies for the correction of these defects. Among those to be recommended, most probably will be prehabilitation and rehabilitation — others may follow. A coordination of agencies will be necessary to complete such projects. Heading these agencies should be the American Medical Association and the American Dental Association. These may be assisted by the Public Health Service and Social Agencies.

Historic changes through which we are passing require us to change our patterns of life. This we can do, have done, and will do gratefully. Medicine will keep abreast of the changing order, still remembering the normal and basic methods which have brought medicine to the position it now holds and deserves.

All physicians, individually and collectively, should be thinking studiously about these questions. Whatever the new program may be, it should be planned and directed by the medical profession and not by lay agencies.
—T. L.

BACKACHE

To all of us low back pain is a problem and has been attacked by the orthopedist, gynecologist, proctologist, etc. and as there are many causes some are not equipped to make an exhaustive study and others are either too busy or too lazy.

As to causes, the one most popular at this time seems to be protruding intervertebral disk. In fact, it has become so popular that the percentage of recoveries following operation now average about 50 percent. This does not mean that such pathology is not causative of low back pain and sciatica but that the intervertebral disk is being imposed upon and condemned when not at fault. Diagnosis of this condition can be quite accurately made and without the injection of opaque media, this procedure is not without real danger, as the ideal substance for myelography is still to be found. When exhaustive study has been made and the diagnosis determined the results of operation are very gratifying.

The patient with low back pain is entitled to conservative treatment which as outlined by Krusen consists of rest, traction, application of radiant heat, sedative massage, and manipulation under general anesthesia.

Steindler has designated certain "trigger points" which, when irritated, aggravates the pain and when injected with a local anesthetic gives relief. This work is of great value and should be thoroughly studied by anyone proposing to make a diagnosis of the cause of low back pain and sciatica.

Rectal examination is necessary as there is nerve communication which might give deflected pain to the sciatic from rectal lesions.

Body mechanics, congenital defects, acquired bony fixations and arthritic changes must all be taken into consideration.

This short editorial is not a discussion of the subject of low back pain and sciatica, but is presented to stimulate the examining physician to more exhaustive efforts to determine the cause and apply the proper remedy to relieve this class of patients who only too often seek relief from the uninformed after having been but superficially examined by their family physician.—L. S. W.

From the U. S. Office of Civilian Defense

To Secretaries of State Medical Societies and Editors of Journals:

According to a joint statement issued on September 4 by the U. S. Director of the Office of Civilian Defense, F. H. LaGuardia, and the Chairman of the American National Red Cross, Norman H. Davis, State and local defense councils are the official agencies responsible for the coordination of all available resources which may be required for civilian protection in the event of belligerent action. Defense Councils should therefore acquaint themselves with the resources of the local Red Cross Chapters in providing food, clothing, shelter, nursing care, transportation, and other basic necessities and should integrate them into the comprehensive local program. Duplication of trained and experienced personnel and of available supplies of the Red Cross should be avoided except where supplementation is essential to meet the anticipated needs of the community.

For the local treatment of Acute Anterior **Urethritis**
(DUE TO NEISSERIA GONORRHEAE)

SILVER PICRATE* *Wyeth*

A complete technique of treatment and literature will be sent upon request

*Silver Picrate is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trituration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by Neisseria gonorrheae.[1] An aqueous solution (0.5 percent) of silver picrate or water-soluble jelly (0.5 percent) are employed in the treatment.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., 23, 201 (March), 1939.

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ASSOCIATION ACTIVITIES

Clinical Society Meeting Has Record Success

The eleventh annual conference of the Oklahoma City Clinical Society has just come to a close. The officers, in reviewing the meeting feel that it has been the most successful in the history of the society, mechanically, academically and socially. The inner workings of the organization were functioning as smoothly as a well oiled piece of machinery—the well balanced program was presented by outstanding leaders in medicine who have ability to teach—and we were fortunate in having an affable, cooperative group of guest speakers, officers, and attendants.

The registration was up to par, the out-of-town doctors registering in a larger number than ever before. The Oklahoma City Clinical Society plans its program primarily for the doctors in the surrounding territory, and wishes to thank them for their unfailing support which has contributed so largely to the continued success of its meeting. The increased registration this year is particularly gratifying in the face of the depletion of those in private practice due to the national defense program.

It seems there are few things to say about the meeting that have not been said before, but the officers are already laying plans for the 1942 conference which they feel will be more comprehensive than any ever held before. Letters are in the mail inviting another group of medical teachers over the country to be guest speakers next year.

The officers of the Clinical Society want you to feel that this is your meeting, and if you have any suggestion about its operation, they would be very glad to have it. Address your communications to the Oklahoma City Clinical Society, 512 Medical Arts Building, Oklahoma City, Oklahoma.

Oklahoma Dermatologists Entertain Texas Group

Members of the Texas Dermatological Association were the guests Sunday, October 19, of the Oklahoma Dermatological Association at a meeting at the University Hospital, Oklahoma City.

Dr. Onis G. Hazel, Oklahoma City, and Dr. John Lamb, Oklahoma City, presented 22 cases for diagnosis and study, and a discussion of three hours' duration followed.

After the meeting, the Oklahoma physicians entertained their guests with a barbeque supper at the country cabin of Dr. Everett S. Lain.

The Oklahoma group will meet again in the spring of 1942, in Tulsa, with Dr. Harry Green, Tulsa, president, in charge of arrangements for the session. In the fall of 1942, the Oklahoma members will be the guests of the Texas Dermatological Association at its regular fall meeting.

About 37 physicians attended the October 19 meeting. Among the Texas guests present were Dr. Bedford Shelmire, Dr. Everett Fox, Dr. E. L. Loftis, and Dr. Arthur G. Schoch, all of Dallas; Dr. C. Ferd Lehmann, San Antonio; Dr. Leslie M. Smith, El Paso; Dr. Shirley S. Bowen, Dr. Everett Seale, Dr. Culver Griswold and Dr. W. Harris Conner, all of Houston; Dr. William Porter Brown and Dr. Sidney J. Wilson, both of Fort Worth; Dr. William F. Spiller, Galveston; Dr. Paul Power, Waco; Dr. Charles Duncan Stewart, Corpus Christi; Dr. Raymond P. Hughes, of El Paso and Fort Sill, Okla., and Dr. John Gilmore Breu, of Dallas and Abilene.

Committee Named to Confer With Pharmaceutical Group

Dr. Finis W. Ewing, President, Muskogee, has announced the appointment of a committee to confer with a committee from the Oklahoma Pharmaceutical Association about regulating the sale of certain drugs which may be a menace to health when used by the lay public without proper prescriptions.

Dr. Grady Mathews, Oklahoma City, is chairman of the committee, and Dr. Turner Bynum, Chickasha and Dr. L. J. Starry, Oklahoma City, are members.

A typical list of the drugs in question would include: Barbiturates, Cinchophen, Cantharides (for internal use), Sulfapyridine, Aconite, Colchicine, Chrysarobin or Goa Powder, Emetine, Radium, Phenobarbital and Derivatives, Neocinchophen and other Cinchophen Derivatives, Aminopyrine, Sulfathiazole, Benzedrine Sulfate (for internal administration), Chrysophanic Acid, Phosphides, Thiocyanates, Sulfanilamide, Thyroid, Colchicum, Phosphorus.

And the anthelmintic drugs: Tetrachlorethylene, Wormseed oil (Chenopodium Oil), Carbon Tetrachloride (for internal use), Male Fern (Aspidium), Santonin, Thymol.

DuPont Company Wants Oklahoma Doctors

The Executive Office of the Association has been advised that the E. I. DuPont company, who will operate the government powder plant being constructed at Chouteau, Okla., is anxious to employ Oklahoma physicians for its Medical Department.

The company has indicated that doctors applying should be graduates of Class A schools and have finished an internship, be between the ages of 26 and 50, possess an Oklahoma license to practice medicine, and be a native-born citizen.

The compensation base is approximately $400.00 per month, and any doctor interested in qualifying can have immediate employment.

Those doctors interested should get in touch immediately with either the Executive Office of the Association, 210 Plaza Court, Oklahoma City, or with T. L. Watson, M.D., Medical Department, E. I. DuPont and Company, Pryor, Okla.

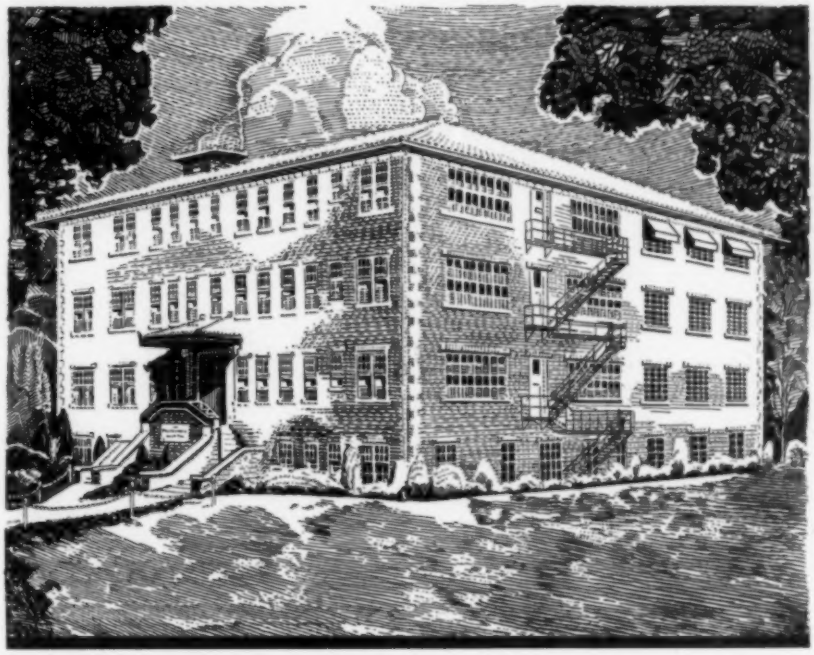
Southeastern Oklahoma Medical Group Holds Fall Meeting in Poteau

More than 25 members and guests were in attendance at the 1941 fall meeting of the Southeastern Oklahoma Medical Association, October 7, at the Judkins-Forbes hotel, Poteau.

Soon after the meeting was convened, Dr. Paul Rice of Antlers invited the Association to hold its 1942 spring meeting in Antlers, and the invitation was accepted.

Two guest speakers were highlighted on the scientific program for the day. They were Dr. Arthur F. Hoge, Fort Smith, Ark., and Dr. Harry Wilkins, Oklahoma City. Doctor Hoge discussed "Methods of Treatment of Cirrhosis of the Liver," and Doctor Wilkins joined the Symposium on Neurology to lead a general discussion on the Symposium.

Other speakers who read papers in the Symposium included Doctor Saylor of the Government hospital, Talihina; Dr. M. L. Henry, and Dr. E. N. Fair, both of Heavener, and Dr. T. H. McCarley and Dr. Julius Levine, both of McAlester.



Etching from a pen study of Polyclinic by Edward Henderson

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Polyclinic is a hospital founded, planned and built by a physician. In it are incorporated the best ideas of modern design and equipment. Here the physician finds every convenience to contribute to the efficiency of his service.

There is no regular staff of physicians at Polyclinic. Any competent, ethical doctor is welcome to practice here. Thorough, impartial service, based upon the highest medical ethics, is Polyclinic's constant aim.

POLYCLINIC HOSPITAL

THIRTEENTH and ROBINSON **OKLAHOMA CITY**

MARVIN E. STOUT, M.D.
Owner

Attorney General's Decision On Corporations' Optometry Practice

A decision recently handed down by the Attorney General's office concerning the attempt by certain corporations to operate Optometrical Departments by the employment of licensed physicians is herewith printed in full.

The decision of the Attorney General in ruling that this was a violation of the practice of Optometry, it is believed will be concurred in by the members of the profession. The Attorney General, Mac Q. Williamson and the Assistant Attorney General, Fred Hanson, are to be complimented upon the thoroughness of their decision.

August 25, 1941.

Dr. James D. Osborn, Jr.,
Secretary, Oklahoma Board of Medical Examiners.
Frederick, Oklahoma.

Dear Sir:

The Attorney General acknowledges receipt of your letter dated August 13, 1941, wherein you, in effect, state that a licensed physician and surgeon of Oklahoma has been employed on a weekly $50.00 salary and 2% gross receipts commission basis for the past year by an optical company, same being a foreign corporation, to have charge of and to perform optometrical services in its optical department located in space rented on a weekly 25% gross receipts basis from and in the store building of a mercantile company, same being a foreign corporation licensed to do business in this State; that while no direct charge is made by said physician or optical company for the optometrical services of said physician, an indirect charge is made therefor by said department in the sale price of spectacles, frames, lenses, etc. sold thereby; that if said physician's examination of a customer reveals the ocular abnormality complained of, such as squint, etc., is caused by syphilis or some other pathological condition which should be treated by drugs or surgery, he so advises the customer and nothing further is done in the premises; that all moneys paid by customers for said glasses, frames, lenses, etc., is paid directly by said optical department or its customers to the cashier of said mercantile company, and that all credit charges are collected by him; that said gross receipts are retained by said company and weekly paid thereby, after deducting the percentage thereof agreed upon as rent and incidental expenses, such as cost of advertising, if any, to said optical company; and that said $50.00 salary and 2% gross recepits commission are paid directly by said optical company to said physician for his services. It also appears from said letters that said mercantile company now desires to put an ad in certain newspapers of this State advertising said department as the optical department of said mercantile company without using the name of said optical company or physician therein.

In connection with the statement of facts above set forth you ask if same reveals a violation of the medical practice act of this State, or of any law thereof.

In reply you are advised that Section I, Article 29, Chapter 24, Oklahoma Session Laws 1937, which amends Section 4659, Oklahoma Statutes 1931, is as follows:

> "The practice of Optometry is defined to be the science and art of *examining the human eye and the correcting or relief of ocular abnormalities by the employment of any means*, including the use or furnishing of any self-testing device, other than the use of drugs, for the measurement of the powers of vision and the adaptation of lenses or prisms for the aid thereof."

Section 2, Article 29, Chapter 24, Oklahoma Session Laws 1937, which amends Section 4662, Oklahoma Statutes 1931, requires every person desiring to practice Optometry in Oklahoma to secure a license or certificate of registration as an optometrist from the Board of Examiners in Optometry of this State, to secure which he must be twenty-one (21) years of age, of good moral character, and have had a high school education, be a graduate of a standard school of optometry conferring the degree of Doctor of Optometry (board rules require a four years' course of instruction), and pass an examination by the Board in the following subjects, to-wit:

> "Anatomy of the eyes, use of the ophthalmoscope, retinoscope and the use of trial lenses, general anatomy, physiology, physics, chemistry, biology, bacteriology, ocular pathology, ocular neurology, ocular myology, psychology, physiological optics, optometrical mechanics, clinical Optometry, visual field charting and orthoptics, the general laws of optics and refraction, as is essential to the practice of Optometry."

In connection with Sections 1 and 2 of Article 29, supra, it will be noted that the practice of optometry in this State includes the science and art of "examining the human eye," as well as of "correcting or relief of ocular abnormalities," and that the required examination of applicants for a license to so practice covers many subjects, including Biology, Bacteriology, Ocular Pathology, Ocular Neurology and Ocular Myology, and that while knowledge by an optometrist in said stated subjects is not necessary while he is engaged in the "correcting or relief of ocular abnormalities," such knowledge is necessary to enable him to determine, when examining the human eye, if the ocular abnormality complained of, such as squint, etc., is caused by syphilis, focal infection, diabetes or other pathological conditions which should be treated by the use of drugs or surgery by physicians and surgeons, rather than corrected or relieved by the use of lenses or prisms by optometrists. It is, therefore, clear that such *examinations* not only require a high degree of technical skill and knowledge, but often involve a close personal relationship of trust and confidence between the optometrist and his patient, which should not be shared by an unlicensed corporation or person.

Section 3 of Article 29, Chapter 24, Oklahoma Session Laws, 1937, which amends Section 4664, Oklahoma Statutes 1931, authorizes the Board of Optometry to revoke the license of an optometrist who accepts employment, either directly or indirectly.

> "from an unlicensed Optometrist or person engaged in any profession or business or owning or operating any profession or business to assist it, him, or them in practicing Optometry in this State."

Said Section 3 also provides:

> "No person or persons shall practice Optometry under any name other than his or her own proper name and it shall be the same name as used in his or her license as issued by the Board of Examiners; * * * ."

Section 4669, Oklahoma Statutes 1931, is in part as follows:

> "*No person, not a holder of a certificate of registration or exemption, duly issued to him and recorded as above provided, shall practice Optometry in this State.* * * * Practicing, or offering to practice Optometry, or the public representation of being qualified to practice the same by any person not authorized to practice Optometry, shall be sufficient evidence of the violation of this Act. Any person, who shall violate any of the provisions hereof, shall be deemed guilty of a misdemeanor, and upon conviction thereof for each offense, shall be punished by a fine of not less than Fifty ($50.00) Dollars, nor more than Five Hundred ($500.00) Dollars, or imprisonment in the county jail not less than thirty (30) days, nor more than ninety (90) days or by both such fine and imprisonment."

Section 4, Article 29, Chapter 24, Oklahoma Session Laws 1937, which amends Section 4670, Oklahoma Statutes 1931, is as follows:

> "Nothing in this Act shall be construed to apply

to duly *licensed physicians* authorized to practice medicine and/or surgery under the laws of the State of Oklahoma."

The above quoted language, especially when considered in connection with the board definition of the practice of medicine set forth in Section 4635, Oklahoma Statutes 1931, hereinafter quoted, which section expressly exempts from the provisions thereof

"and legally *licensed optometrist* when engaged in the practice of optometry, as defined by law, * * *,"

clearly reveals that our Legislature deemed the practice of optometry to be one branch of the practice of medicine. Certainly said optical company was of that opinion when it employed said physician for the purpose set forth in the first paragraph of this opinion. In this connection attention is called to the first paragraph of the syllabus of the recent case of Bebber v. Fisher (Colo., 1940), 102 Pac. (2d) 741, same being as follows:

"The 'practice of optometry' is but one branch of the 'practice of medicine,' and a license for the latter covers the former."

Moreover, it is significant to note that the only effect of said 1937 amendment of Section 4670, supra, was to delete therefrom the following provision:

"* * * nor to persons who neither practice nor profess to practice Optometry, who sell spectacles, eye glasses or lenses, either on prescription from such physicians or from qualified Optometrists, or as merchandise from permanently located and established places of business,"

which deletion clearly reveals a legislative intent to restrict the practice of optometry to licensed physicians and optometrists, and to deprive unlicensed persons and merchants selling spectacles, etc. of any assumed or supposed right to practice optometry in this State through licensed physicians or optometrists. In this respect, the law of Oklahoma, since said deletion, is different from the Missouri law construed in the case of State, ex inf. McKittrick, Attorney General, v. Gate City Optical Company (Mo., 1936), 97 S.W. (2d) 89, wherein the second paragraph of the syllabus states:

"The Legislature in requiring a certificate of registration for one to practice optometry (Chap. 101, R.S. 1929), and exempting from the operation of the statute persons or corporations who deal in eyeglasses in a store, shop or other established place of business, must have intended that such dealers *might do things right and proper incident to such deals.*" (Note: Meaning the employment by said dealers of licensed optometrists "to fit and sell glasses, frames, lenses, and optical goods for and on their behalf," as stated in said case.)

It will also be noted that Section 4653, Oklahoma Statutes 1931, in effect, prohibits, "firms, associations or corporations" doing business in Oklahoma from practicing medicine and surgery therein, unless same are formed solely by persons "duly licensed to practice medicine and surgery in the State of Oklahoma."

In 13 Am. Jur. (1938), page 838, Section 837, under the subject "Corporations," appears the following *general rule*:

"While a corporation is in some sense a person and for many purposes is so considered, yet as regards the learned professions which can only be practiced by persons who have received a license to do so after an examination as to their knowledge of the subject, it is recognized that a corporation cannot be licensed to practice such a profession. For example, there is no judicial dissent from the proposition that a corporation cannot lawfully engage in the practice of law.

"A corporation cannot be licensed to carry on the practice of medicine. Nor, as a general rule, can it engage in the practice of medicine, surgery, or dentistry through licensed employees. *It is generally held that in the absence of express statutory authority, a corporation may not engage in the practice of optometry either directly or indirectly through the employment of duly registered optometrists.*"

The above general rule is in harmony with that set forth under the subject "Corporations" in 14-A Corpus Juris (1921), pages 296-298, Section 2145, and in 19 Corpus Juris Secundum (1940), pages 400-456, Section 956.

That part of the above general rule which relates to the *practice of law by corporations* is supported by the case of State Bar of Oklahoma v. Retail Credit Association (1935), 170 Okla. 246, 37 Pac. (2d) 953, wherein the material part of the second paragraph of the syllabus is as follows:

"Under provisions of the State Bar Act, chapter 22, O. S. 1931, the State Bar may maintain an action to enjoin *the unauthorized practice of law by a corporation* and its agents, * * *."

That part of the above general rule which relates to the *practice of medicine, surgery and dentistry by corporations* is supported by the case of Kerner, Attorney General, v. United Medical Service, Inc. (Ill., 1936), 200 N.E. 157, 103 A.L.R. 1229, wherein the first paragraph of the syllabus is as follows:

"A corporation's ownership of a medical clinic with offices where the treatment of disease is engaged in solely by licensed and registered physicians and surgeons employed by the corporation, which receives the fees charged the patients, constitutes the practice of medicine by the corporation within a statute prohibiting such practice except by licensed persons." (Note: See annotation at conclusion of said A.L.R. citation).

That part of the above *general rule* which relates to the *practice of optometry by corporations* is supported by the following cases:

1. State v. Kindly Optical Company (Iowa, 1933), 248 N.W. 332,
2. Eisensmith v. Buhl Optical Company (W. Va., 1934), 178 S.E. 695,
3. Funk Jewelry Company v. State, ex rel. La Prade (Ariz., 1935), 50 Pac. (2d) 945,
4. State, ex rel. Beck v. Coldman Jewelry Company (Kans., 1935), 51 Pac. (2d) 995, 102 A.L.R. 334,
5. Harris v. Myers (Ohio, 1934), 191 N.E. 99,
6. Stern v. Flynn (N. Y., 1935) 278 N.Y.S. 598,
7. Eddy v. Board of Optometry (W. Va., 1935), 182 S.E. 870,
8. State, ex rel. Bricker, Attorney General v. Buhl Optical Company (Ohio, 1936), 2 N.E. (2d) 601,
9. Teseschi v. Nathis (N. J., 1936), 183 Atl. 146,
10. McMurdo v. Getter (Mass., 1937), 10 N.E. (2d) 139,
11. Rowe v. Standard Drug Company (Ohio, 1937), 9 N.E. (2d) 609,
12. Bennett v. Indiana State Board of Reg. & Ex. in Optometry (Ind., 1937), 7 N.E. (2d) 977,
13. Neill v. Gimbel Bros. (Pa., 1938), 199 Atl. 178,
14. Ezell v. Rithols (S. C., 1938), 198 S.E. 419,
15. Kay Jewelry Company v. Board of Registration (Mass., 1940), 27 N.E. (2d) 1, and
16. Rowe v. Burkes Inc. (Ohio, 1941), 31 N.E. (2d) 725.

While it is true that there are a number of cases reaching conclusions contrary to that reached here, it will be noted by an examination thereof that same express not only the minority view but that most thereof, like the Gate City Optical Company case, heretofore cited and distinguished, do not construe statutes such as the Oklahoma Statute involved here. In this connection attention is called to the case of Silver v. Lansburg and Bros. (D. C., 1940), 111 Fed (2d) 518, 128 A.L.R. 582, and the annotation which appears at the conclusion of said A.L.R. citation.

Attention is also called to Section 1808, Oklahoma Statutes 1931, which provides:

"All persons concerned in the commission of crime, whether it be felony or misdemeanor, and whether

> they directly commit the act constituting the offense, *or aid and abet in its commission*, though not present, are principals.''

In connection with the above statute attention is called to the case of Gobin and Freeman v. State, 9 Okla. Cr. 201, 131 Pac. 546, 44 L.R.A. (N.S.) 1089, wherein the Criminal Court of Appeals of this State after quoting Section 1808, supra, held:

> ''* * * Under this statute the plaintiff in error Freeman (a licensed physician and surgeon), if he aided and abetted Gobin (not a licensed physician and surgeon), in a violation of the medical practice act (Sections 4634 and 4635, Oklahoma Statutes 1931), would be guilty and subject to punishment not because he (Freeman) did not have a license to practice but because Gobin did not have, and because he (Freeman) aided and abetted Gobin in the commission of the offense. * * * ''

It should also be noted that under that part of Section 3, Article 29, Chapter 24, Oklahoma Session Laws 1937, which authorized the Board of Optometry to ''prescribe a minimum standard of sanitation, hygiene and professional surroundings'' for the practice of optometry in this State, said Board has adopted Rule No. 4-b, same being as follows:

> ''The patients' entrance to each optometric office in this State shall open on a public street, hall, lobby or corridor, and said office shall have one or more windows having outside exposure.''

It would therefore appear that if the optical department referred to by you, in which optometrical services are performed, as aforesaid, does not meet the requirements of the above rule, the operation thereof is a misdemeanor within the provisions of Section 4669, supra.

It is therefore the opinion of the Attorney General, in consideration of the facts, statutes and decisions above set forth, that both said optical company and said mercantile company are unlawfully engaged in the practice of optometry in this State, and that same are subject to prosecution by the county attorney of the county in which said practice is conducted under the provisions of Section 4669, Oklahoma Statutes 1931, supra. In fact, assuming that said mercantile company has no interest in said optical department, still it is subject, under the provisions of Section 1089, as construed in the case of Gobin and Freeman v. State, supra, to prosecution under said Section 4669, since it has at least aided and abetted said optical company in the unlawful practice of optometry in this State.

The Attorney General is of the further opinion that said physician, who has aided and abetted said companies, or at least said optical company, in the unlawful practice of optometry in this State, is likewise subject to prosecution under the provisions of said Section 4669. Whether or not his said conduct constitutes ''unprofessional conduct,'' within the meaning of Section 4652, Oklahoma Statutes 1931, so as to subject him to proceedings to revoke or suspend his license by your Board, is not passed on here. However, in connection therewith attention is called to the general rule set forth in Corpus Juris, page 1099, Section 72.

The Attorney General is also of the opinion that said optical company is subject to ouster from this State by an action in the nature of a quo warranto brought under the fourth subdivision of Section 766, Oklahoma Statutes 1931, which provides for such an action:

> ''When any corporation abuses its power or intentionally exercises powers not conferred by law,''

and that same is likewise true as to said mercantile company, at least in so far as the practice of optometry, or of aiding or abetting in such practice, in this State, as aforesaid, is concerned.

An action to enjoin said optical company from practicing optometry in this State may also be brought. A similar action can be brought against said mercantile company, or at least an action to enjoin it from aiding and abetting said optical company in such practice. Said physician may also be enjoined from so aiding and abetting said company. Such quo warranto and/or injunction actions, however, if brought by the Attorney General, can only be brought pursuant to the request of proper authority as provided in Sections 3, 4 and 6, Article 5, Chapter 20, Oklahoma Session Laws 1939 (See State, ex rel. Haskell, Governor, v. Huston, Judge, 1908, 21 Okla. 782, 97 Pac. 982), but if brought by a county attorney, may be brought upon his own initiative.

Before concluding this opinion the Attorney General desires to state that the operation of said optical department, as aforesaid, regardless as to whether an optometrist or a physician is employed to perform optometric services therein, not only constitutes the unlawful practice of optometry by a corporation, but *probably* also constitutes the unlawful practice thereby of a branch or phase of medicine within the meanings of Sections 4634 and 4635, Oklahoma Statutes 1931. In support of this conclusion attention is called to the above quoted provisions of Section 4, Article 29, Chapter 24, Oklahoma Session Laws 1937, and of Section 4635, Oklahoma Statutes 1931, the above quoted excerpt from the case of Bebber v. Fisher, supra (all of which appear on page 4 of this opinion), and the case of Baker v. Texas (1921), 240 S.W. 924, wherein the first paragraph of the syllabus is as follows:

> ''One practicing optometry whose business is to detect and characterize disorders of the eyes by means of scientific devices, and correct defects of vision by means of lenses, is, although he does not attempt to prescribe medicine for diseased conditions, within the terms of a Medical Practice Act declaring that any person shall be regarded as practicing medicine who shall publicly profess to treat any physical deformity by any system or method.''

However, in as much as the Attorney General has been unable to find any case directly passing on this question, same is not passed on here.

Very respectfully,
FOR THE ATTORNEY GENERAL
Fred Hansen.
Assistant Attorney General.

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This loaf brings you the natural, fresh FLAVOR of the wheat, along with Vitamin B1 and the other wheat vitamins. You and your family will like it!

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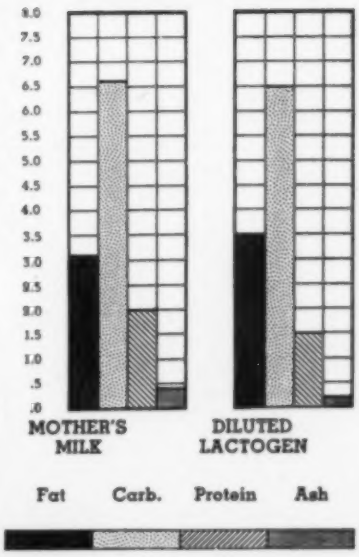

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"My own belief is, as already stated, that the average well baby thrives best on artificial foods in which the relations of the fat, sugar, and protein in the mixture are similar to those in human milk."

John Lovett Morse, A. M., M. D.
Clinical Pediatrics, p. 156.

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155 EAST 44TH ST., NEW YORK, N. Y.

• OBITUARIES •

Dr. Allen G. Flythe
1896-1941

The Oklahoma State Medical Association and the Bryan County Medical society lost one of their most beloved members, when Dr. Allen G. Flythe, Durant, died, September 21, at his home in Durant.

Doctor Flythe's death was caused by Rocky Mountain spotted fever which he contracted when attending a family of patients who were suffering from the disease.

Born at Jackson, N. C., May 1, 1896, Doctor Flythe attended Duke University and was graduated from Jefferson Medical college, Philadelphia. Following his graduation, he went to Dallas in 1923, where he was professor of pathology at Baylor Medical college. A year later, he began private practive in Dallas.

In 1939, he moved with his family to Durant, where he became associated with Dr. O. J. Colwick in the Durant clinic, and where he became active in the Oklahoma State Medical Association and Bryan County Medical society.

Doctor Flythe is survived by his wife, Mrs. Cathrine Flythe; two daughters, Sharon Flythe and Kay Flythe, all of Durant, and four brothers, Arthur P. Flythe, Jackson, Tenn.; Julian Thomas Flythe, Washington, D. C., and S. S. Flythe and Jess Abner Flythe, both of Fieldale, Va.

Dr. Jacob C. Warmack
1870-1941

Oklahoma was deprived of one of her pioneer physicians in the death, September 26, of Dr. Jacob C. Warmack, Oklahoma City. Doctor Warmack, 71 years old, succumbed to a heart ailment.

He was born September 11, 1870, in Piedmont, Mo., and attended Hales college in Wayne county, Mo., and the Gate City Medical college at Texarkana, Tex. Following his graduation from medical college, he moved in 1907 to Oklahoma, where he began his practice in Muskogee. In 1922, he moved to Oklahoma City, where he continued his practice.

Doctor Warmack was an active member of the Oklahoma State Medical Association, the Oklahoma County Medical society, and the Surgeon's club at the Mayo Brothers' clinic in Rochester, Minn.

He is survived by his wife, two sons, Cecil Warmack and J. Cruce Warmack, and a daughter, Mrs. E. M. Pate, all of Oklahoma City, and another daughter, Mrs. Steele C. Smith, Anderson, Ind.

Dr. Carl T. Arrington
1897-1941

Dr. Carl T. Arrington, Oklahoma City, a graduate of the University of Oklahoma School of Medicine and a practicing physician in Oklahoma City for ten years, died October 18, in his home. His death was caused by an overdose of sleeping tablets.

Doctor Arrington was born October 31, 1897, at Greenwood, Ark. In 1928, he moved to Oklahoma City, where he was graduated from the School of Medicine in 1930.

A World War veteran, Doctor Arrington was negotiating at the time of his death for work as an examining physician at new defense plants. He was a member of the First Christian church, a Mason and a Shriner, a member of Sigma Nu Sigma Masonic fraternity and of the Phi Beta Pi medical fraternity.

His survivors include his wife, Mrs. Bertha Arrington, and a daughter, Joan Arrington, both of Oklahoma City; and his mother, Mrs. George Arrington; a sister, Mrs. Randolph Whittaker, and two brothers, Otis Arrington and Harvey Arrington, all of Fresno, Calif.

Dr. McClelland Wilson
1864-1941

Dr. McClelland Wilson, pioneer state physician and one of McAlester's most beloved community builders, died at his home in McAlester, October 15 .

Doctor Wilson, who was born in Kentucky, June 26, 1864, and educated at a medical college in St. Joseph, Mo., was one of the first government physicians in McAlester. After his graduation from the medical college, he began practice in Arkansas, and then in Brownwood, Tex., but he settled permanently in McAlester. He gave up his government physician work under Maj. B. F. Hackett, the United States Marshall, when his practice no longer permitted him the time for extra duties.

Both Doctor Wilson and his wife were active members of the Baptist church, Doctor Wilson serving the congregation as chairman of the board of deacons for 20 years. Doctor Wilson was also a Mason, an early member of the McAlester Lions club, and an active member for years of the Chamber of Commerce.

He retired from active practice in 1934, being succeeded by his son, Dr. Herbert Wilson.

He is survived by his wife, his son, Dr. Herbert Wilson, and two grandchildren, Macks Wilson and Jerry Wilson, all of McAlester; a sister, Mrs. Emily Crank, Climax, Mich., and a brother Henry E. Wilson, Davenport, Ohio.

South Texas Post Graduate Medical Assembly Will Meet December 2-4 in Houston

Members of the Post Graduate Medical Assembly of South Texas will celebrate the Assembly's tenth anniversary at the meeting December 2, 3 and 4, in Houston, Tex.

The meeting will be held at the Rice Hotel, with all lectures, technical exhibits, scientific sessions and luncheons taking place in the hotel.

Fifteen guest speakers from all over the United States will be featured on the scientific program.

ATTENTION!

The following letter from the United States Secret Service office has been received in the office of the Association, and should be called to the immediate attention of every Oklahoma doctor:

Treasury Department Field Force
United States Secret Service
Oklahoma City, Oklahoma
October 18, 1941.

Oklahoma State Medical Association,
Plaza Court,
Oklahoma City, Oklahoma.

Gentlemen:

This service is seeking to arrest the below named and described man for issuing fake checks on the non-existent "Quartermaster Bank of the United States Army." This man is tubercular and requires periodical treatments, in some of which, in various parts of the United States, he has defrauded attending physicians by giving them these fake checks in payment. It is suggested that you warn physicians treating tubercular cases to be on the watch for this man in Oklahoma, and, if he appears, to take measures to cause his arrest and notice given thereof to this office.

MARVIN LEVINSOHN, alias Martin Davis; white; Jewish; 40; 5-8; slender; dark hair; sharp features; large nose; wears a soldier's uniform on occasions. His photograph is on file at police stations and in offices of retailers associations in the larger cities of Oklahoma.

Very truly yours,
John E. Osborne,
Agent in Charge.

Office: 202 Post Office Bldg.
Phone: 2-2626 (day); 7-4388 (night).

KARO FORMULAS FOR NORMAL INFANTS

AGE—TWO WEEKS
Milk.....10 ozs.
Water.....10 ozs.
Karo syrup..... 2 tbs.
3 ozs. every 4 hrs.—6 feedings

AGE—ONE MONTH
Milk.....12 ozs.
Water.....13 ozs.
Karo syrup.....2½ tbs.
4 ozs. every 4 hrs.—6 feedings

AGE—TWO MONTHS
Milk.....15 ozs.
Water.....13 ozs.
Karo syrup..... 3 tbs.
4½ ozs. every 4 hrs.—6 feedings

AGE—THREE MONTHS
Milk.....17 ozs.
Water..... 9 ozs.
Karo syrup..... 3 tbs.
5 ozs. every 4 hrs.—5 feedings

AGE—FOUR MONTHS
Milk.....20 ozs.
Water.....11 ozs.
Karo syrup.....3½ tbs.
6 ozs. every 4 hrs.—5 feedings

AGE—FIVE MONTHS
Milk.....23 ozs.
Water.....11 ozs.
Karo syrup..... 4 tbs.
6½ ozs. every 4 hrs.—5 feedings

AGE—SIX MONTHS
Milk.....26 ozs.
Water.....10 ozs.
Karo syrup..... 4 tbs.
7 ozs. every 4 hrs.—5 feedings

The amount of Karo in each formula is optional. During the summer, it may be reduced according to the baby's digestive reaction.

"A FORMULA of whole cow's milk, carbohydrate and water may be calculated for the individual infant according to the following requisites:

(1) The amount of cow's milk necessary will be 1.5 to 2.0 ounces per pound (100 to 130 cc per kilo) of expected body weight per day; or, one-half to two-thirds of the total calories required for the infant.

(2) The amount of added Karo syrup required will be about one-tenth of the quantity of milk used, i.e., 0.15 to 0.2 ounces per pound (0.1 to 1.13 grams per kilo) of expected body weight per day, or one-third to one-half the total calories required for the infant.

(3) The total caloric value of the formula should be approximately 50 to 55 calories per pound (110 to 115 calories per kilo) of body weight per day.

(4) The amount of water added to the formula will be two to three ounces per pound (130 to 200 cc per kilo) of body weight per day; and the amount of water added to the formula for the 24-hour period depends upon the degree of dilution required to render the mixture digestible.

(5) The amount of formula offered at a feeding during the first few months is expressed by the rule—Age in months plus two ounces at four-hour intervals."

KUGELMASS: "*Newer Nutrition in Pediatric Practice.*" 1940.

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NEWS FROM THE COUNTY SOCIETIES

Members of the Caddo, Stephens and Grady County Medical societies have reorganized their Tri-County Clinical society, which has resumed monthly meetings. At the reorganization meeting, September 26, in Chickasha, Dr. L. E. Woods, Chickasha, was elected president of the Society.

Following the business meeting, two guest speakers, Dr. J. B. Eskridge, Jr., and Dr. Edward N. Smith, both of Oklahoma City, were presented in the scientific discussion for the evening. Announcement was made by Dr. H. M. McClure, Chickasha, that Dr. Frank Joyce was establishing a blood bank at the Chickasha Hospital for use of all physicians.

The October meeting of the Tri-County Clinic society also was held in Chickasha, with 25 members in attendance. Dr. W. W. Rucks, Jr., and Dr. D. W. Branham, both of Oklahoma City, were guest speakers for the program. Doctor Rucks discussed "Pericarditis," and Doctor Branham spoke on "Traumatic Injuries to the Urinary Tract."

Two new members were introduced at the September 23 meeting of the Stephens County Medical society, in Duncan. They were Dr. E. H. Lindley and Dr. Mark H. Donavan. Doctor Lindley is associated with his brother, Dr. E. C. Lindley, and Doctor Donovan is associated with the Weedn hospital at Marlow.

Dr. Louis H. Ritzhaupt, Guthrie, medical officer for the state draft board, discussed "Draft Requirements in Medical Examinations" for the group.

Fifteen members of the Woodward County Medical society were present at a dinner meeting, October 9, in Woodward, to hear Dr. Joseph D. Duer of Woodward give an illustrated lecture on "Chest Conditions."

The society will meet again November 13 in Woodward.

A Symposium on Mouth Diseases was held by members of the Pittsburg County Medical society at their meeting, October 24, in McAlester at the Albert Pike Hospital.

Guests at the meeting were dentists, three of whom were guest speakers on the program. They were Dr. C. V. Kieses, who discussed "Fractures of the Jaw"; Dr. E. Porth, who talked on "Infections of the Mouth," and Dr. J. N. Berry, who discussed "Cervical Ademitis and Salivary Tumors." Discussion of the three lectures was held by the society members.

October 6, members took part in the program of the Southeastern Oklahoma Medical Association meeting in Poteau.

Members of the Washington-Nowata County Medical society heard Dr. Thomas Wells speak on "Diagnosis and Treatment of Coronary Occlusion" at the meeting, October 8, in Bartlesville. Dr. K. D. Davis, Nowata, led the discussion on this paper. "Methods of Control of Nasal Hemorrhage" was the title of the next talk, given by Dr. O. I. Green, Bartlesville, with Dr. J. E. Crawford, Bartlesville, leading the discussion which followed this paper.

Concluding the program was the showing of a motion picture on "Research Work on Vitamine B Complex."

About 19 members were present at the meeting; the society will hold a staff meeting, November 12, in Bartlesville.

Dr. E. Goldfain and Dr. Ellis Moore, both of Oklahoma City, were the guests of the Garvin County Medical society, October 15, at a meeting in Pauls Valley. Doctor Moore spoke on "Hemorrhoidectomy with Special Reference to a New Technique and the Avoidance of Pain." Doctor Goldfain discussed "Non-Articular Rheumatism."

Dr. Ray M. Balyeat, Oklahoma City, will be the society's guest at the meeting in Pauls Valley, November 19, when he will talk on "Diagnosis and Treatment of Common Allergic Manifestations Encountered by the General Practitioner."

Fifteen doctors from other counties and eight dentists were the guests of the Okfuskee-Okmulgee County Medical society's meeting, October 13, in Okmulgee. The guest doctors were from Tulsa, Cherokee, and Hughes counties, and the dentists were from Okmulgee. About 18 hosts were present.

Dr. H. L. Smith, cardiologist of the Mayo Clinic in Rochester, Minn., discussed "Some of the New Aspects in the Treatment of the Failing Heart."

The society will meet again, November 10, in Okemah.

Dr. Coyne H. Campbell, Oklahoma City, was guest speaker at the meeting of the Jackson County Medical society, October 6, in Altus. The topic of Doctor Campbell's talk was "Functional Nervous Disorders."

Dr. J. M. Allgood, Altus, was in charge of the meeting, which was held in the Altus hospital.

Two sound-moving pictures were highlighted on the program of the Woods-Alfalfa County Medical society meeting, September 30, in Alva. The pictures, shown by William M. Coulter of the Mead-Johnson company, were "Roentgen Pelvimetry" and "When Bobby Goes to School."

Dr. Charles M. Pearce, senior medical officer, region eight, FSA, and F. A. Boutwell, regional health specialist, outlined the relation between the local physician and the FSA clients.

The Seminole County Medical society held its first regular fall meeting the week of October 5, in Seminole, with 13 members and ten guests present.

Dr. Clark Hall, Oklahoma City, professor of pediatrics in the University of Oklahoma School of Medicine, was guest speaker, his subject being "The Rheumatic State and Rheumatic Fever."

Two guest speakers from Tulsa were featured on the program of the regular meeting of the Cherokee County Medical society, October 7, at the W. W. Hastings hospital in Tahlequah.

Dr. Frank A. Stuart discussed "Fractures of the Hip," illustrating his lecture with a motion picture. A. J. Schmidt, of the Boxter Laboratories, the other speaker, discussed and demonstrated the method for preserving blood.

Members of the society have made plans to secure for Tahlequah a blood plasma bank.

In the October meeting of the Cleveland County Medical society, in Norman, members agreed to contribute toward final payment of the balance on an inhalator for the Norman Fire department. The society had made one contribution to the department.

Guest speaker at the meeting was Dr. William K. Ishmael, Oklahoma City, who talked on the cure of rheumatism.

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Nomination of 1942 officers was made at the business meeting, October 18, of the Pottawatomie County society in Shawnee. About 20 members were present.

Dr. John Carson, Shawnee, was appointed chairman of the Annual Meeting and Ladies Night committee, and Dr. W. B. Mullins was made a regular member of the society at the meeting.

Following the business session, Dr. F. M. Keen, Shawnee, program chairman for the evening, talked on "Rheumatic Fever," ad Dr. E. E. Rice, Shawnee, led the discussion of Doctor Keen's subject.

The society will meet November 11 in Shawnee to hold its annual election of officers. Dr. Paul Gallaher, Shawnee, and Doctor Carson will be in charge of the scientific program. "B" Complex will be the topic for discussion.

About 15 members attended the meeting of the Muskogee County society, October 6, in Muskogee. Dr. Maurice Searle of Tulsa, was a guest of the society and led the program on Pediatrics.

Dr. T. H. McCarley, McAlester, will be the guest speaker at the next meeting, November 3, in Muskogee.

Auxiliary News

The first fall meeting of the Pittsburg County auxiliary was held on September 2, at the Hotel Crutcher. Nine of their 14 members were present. Due to the illness of Mrs. R. K. Pemberton, president of this group, no plans were made at this meeting. Mrs. Walter J. Dell and Mrs. Edward D. Greenberger were hostesses at the luncheon which followed a short business meeting.

The Cleveland County Medical auxiliary met at the Central State Hospital, October 9, at 7:30 P.M., with Mrs. Jim L. Haddock, president, in charge. There were ten members and two guests present. Mrs. Opha Boyd of Norman gave a book review on "April Was When It Began," by Barry Benefield.

Hostesses for a dessert course served the Auxiliary and Medical society members were Mrs. A. H. Atkins, Mrs. Curtis Berry, Mrs. W. B. Carroll and Mrs. W. A. Fowler.

On October 7, the Tulsa County auxiliary entertained at a coffee in the home of Mrs. H. B. Stewart. There were 64 members present. Mrs. T. B. Coulter heads this auxiliary as president.

A registration coffee was given by the Oklahoma County Medical auxiliary on October 3 at the Y.W.C.A. from 10:00 A.M. to 12:00 Noon. Ninety-four members and three guests attended this coffee. The receiving line was headed by Mrs. Neil Woodward, president of the Oklahoma County Auxiliary, and other officers of this group.

The Pontotoc County Medical auxiliary held its opening fall luncheon September 18, with Mrs. O. H. Miller, president, in charge of the short business session following luncheon.

Members adjourned to the Valley View hospital to make surgical dressings. Nine members and two guests attended the meeting.

Dr. Henry Browne Will Head Urology Group

Dr. Henry S. Browne, Tulsa, was elected President of the South Central section of the American Urological Association, September 7, at the annual convention of the Association in Galveston, Tex.

Doctor Browne, who served the organization as Vice-President during the past year, headed a large delegation of Urologists from Oklahoma.

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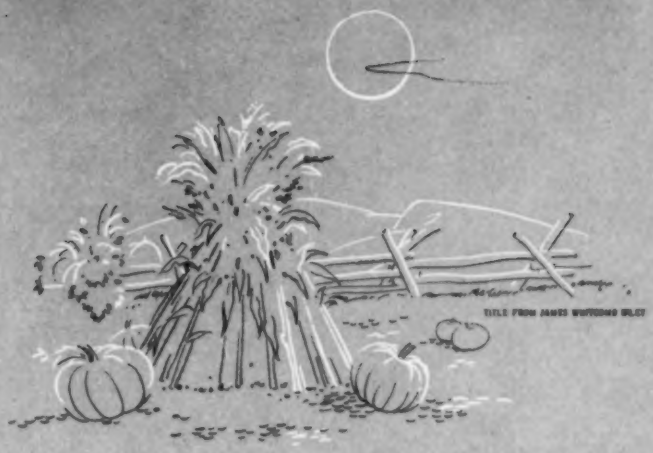

The pollens are gone with the frost and your allergic patients breathe freely again. But with the fall come colds and upper respiratory infections, and to obtain relief from the nasal congestion from these causes you will again have need of a reliable decongestant.

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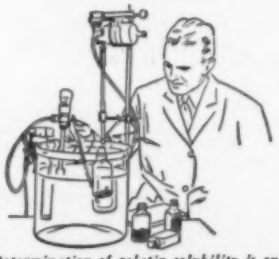

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Dr. Dyer Appointed to Committee Office In Obstetrics-Gynecology Congress

Dr. Isadore Dyer of the Tahlequah Health Department, has recently been appointed Secretary of the membership committee of the American Congress on Obstetrics and Gynecology. This is a national meeting which boasts for its membership practically every prominent obstetrician and gynecologist in the United States and Canada. The Congress is sponsored by the American Committee on Maternal Welfare, and meets once every three years, the last meeting having been held in Cleveland, Ohio, in October, 1939.

The next meeting of the Congress will be in St. Louis, April 6-10, 1942, and at that time through the cooperation of the Oklahoma State Health Department, an exhibit depicting the Maternity Service which has been in operation for three and one half years in Cherokee County will be shown. The exhibit will be one of the largest and most elaborate ever produced through the State Health Department.

Four Oklahoma City Doctors Are Initiated In American College of Surgeons

Dr. Jess Herrmann, Dr. Charles M. O'Leary, Dr. Joseph S. Messenbaugh and Dr. John F. Kuhn, Jr., all of Oklahoma City, were among the 1941 class of initiates presented for fellowships in the American College of Surgeons at the Thirty-First Annual Clinical Congress of the College, held November 3-7, in Boston, Mass.

Another Oklahoman present at the Congress was Dr. R. M. Howard, Oklahoma City, Southwest Representative for the College.

Dr. W. Edward Gallie, Toronto, Canada, was inaugurated as new president of the College at the opening meeting of the Congress.

How sad to think that by the time a man works up to a house with three bathrooms, he often needs treatment for his constipation.—Bulletin, Garfield County Medical society.

Opportunities for Practice

Wanted: A physician, 25 to 40 years of age, for Locum Tenens three months, mostly office and industrial work, partnership optional if mutually agreeable. Southern Oklahoma inland oil town, no competition. Apply P. O. Box 126, County Line, Okla.

There is an excellent opportunity for practice for a physician in Hitchcock, Okla., and the surrounding vicinity in Blaine county. Any doctor who is interested in building up a practice in this part of the state should contact Mr. C. V. Walters, Town Clerk, Hitchcock, for particulars.

Classified Advertisements

For Sale: Victor Diathermy Machine in good condition, with all accessories including foot switch and clock. Address: L. C. Kuyrkendall, M.D., McAlester, Okla.

For Sale: Hospital and office equipment, including: one International 660 X-ray complete; one new Developing Tank; one Observation Stand; one Utensil Sterilizer; six Hospital Beds, complete; one Diathermy; one Air-cooled Ultra-Violet Ray; one Water-cooled Ultra-Violet Ray; one Gas Machine.

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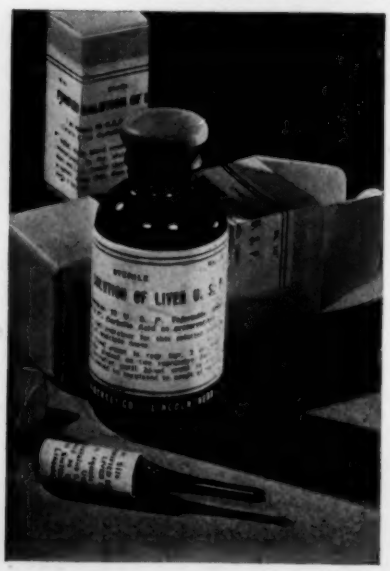

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JEFFCOATE,[1] in a paper on estrogenic hormone therapy, states that 80 percent of women experience menopausal symptoms varying from the well-recognized vasomotor disturbances to those of vaguer character such as headaches, emotional instability, depression, anxiety and muscle pains. In a large percentage of cases these symptoms can be eliminated by adequate estrogenic therapy.

During the more than 10 years in which Amniotin has been available to the medical profession its clinical effectiveness in controlling menopausal symptoms has been abundantly demonstrated. It differs from estrogenic substances containing or derived from a single crystalline factor in that it contains, in highly purified form, estrogenic substances naturally present in pregnant mare's urine. Its estrogenic activity is expressed in terms of the equivalent of international units of estrone.

Amniotin is available in Capsules containing the equivalent of 1000, 2000 and 4000 I. U. of estrone; in Pessaries containing 1000 and 2000 I. U. and in 1-cc. ampuls containing 2000, 5000, 10,000 and 20,000 I.U.

[1] Jeffcoate, T. N. A.: *Brit. Med. J.* 2:671 (Sept. 30) 1939.

For literature address the Professional Service Department, E. R. Squibb & Sons, 745 Fifth Avenue, New York, N. Y.

Amniotin A SQUIBB PREPARATION OF ESTROGENIC SUBSTANCES OBTAINED FROM THE URINE OF PREGNANT MARES

BOOK REVIEWS

"The chief glory of every people arises from its authors."—Dr. Samuel Johnson.

"THE DAILY LOG FOR PHYSICIANS." Colwell Publishing Company, Champaign, Ill. Price $6.00.

This is the fifteenth edition of a bookkeeping system which provides a display of important income and expense items, all in loose-leaf form, well bound.

Figures that are essential for income tax returns, budgets, and legal aid are simply systematized. Subsidiary to the financial records are memorandum forms with records of inoculations, surgery, obstetrics, narcotics, etc.

It is a simple and complete record, edited annually, keeping it abreast of all possible improvements.—L. S. Willour.

"THE INFANT AND CHILD IN HEALTH AND DISEASE." John Zahorsky, M.D., and Elizabeth Noyes, R.N. Cloth. Pp. 496 with 140 illustrations and seven color plates. St. Louis: The C. V. Mosby Co. 1939.

This is the second edition of this book. It is a textbook for nurses and is adapted to the new curriculum adopted by the National League of Nursing Education. Part 1 is devoted to the normal infant and child; Part 2 to the Diseases of infants and children. Part 3 discusses pediatric procedures with several illustrations demonstrating them. The book especially stresses nursing care.—Clark H. Hall.

PRACTICAL MICROBIOLOGY AND PUBLIC HEALTH. William B. Sharp, S.M., M.D., Ph.D., Professor of Bacteriology and Preventice Medicine in the Medical Department of the University of Texas. Pp. 492 with 125 illustrations. The C. V. Mosby Co., St. Louis, Missouri. 1938.

Dr. Sharpe's book is an excellent one and fulfills very well the purpose for which is was written, namely, a combined laboratory guide and handbook in bacteriology, immunology, public health and parasitology. The exercises are well arranged and the directions are briefly, concisely and clearly given, accompanied by charts for use by the students. Laboratory results can be recorded in the book. However, it would seem advantageous to me that students should have a loose leaf laboratory notebook for keeping more detailed laboratory notes than it would be possible in the limited space provided in the book. The book is in no sense a textbook and it would be necessary to supplement the material by reference to other more complete texts.

The book could be used as a laboratory manuál in medical schools where courses in bacteriology, immunology, public health and parasitology are given in the same department and as a combined course, and for this purpose it is very well organized. It could be adapted also for the general courses in the subjects in colleges and universities.—H. D. Moor.

March of Time Back on Air

March of Time is back on the air, returning to the air-waves over 111 stations of the NBC-Blue Network October 9, at 8:00 P.M., EST. The series, which has been off the air for two years is sponsored by Time, Inc., publishers of Time Magazine.

Dr. E. Goldfain Opens New Offices

The office of the Association wishes to congratulate Dr. E. Goldfain on the opening of his new clinic offices at 228 Northwest 13th Street, Oklahoma City.

In the new offices, Doctor Goldfain will carry on his regular practice, giving special attention to arthritis and rheumatic diseases.

It Can't Happen Here??

The following item is reprinted from the New England Journal of Medicine, October 2 issue:

Owing to the shortage of fuel oil, the Boston Medical Library will be closed on Saturdays, commencing October 4 and continuing until late spring. This will necessitate the closing of the headquarters of the Society and the office of the Journal during the corresponding period. In an emergency, the officers of the Society and the managing editor and associated editors of the Journal will be available through their offices or homes.

Dr. Charles M. Pearce Moves to Dallas

Dr. Charles M. Pearce, McAlester, moved from the state in September to Dallas, Tex., where he has opened headquarters as physician for the Farm Security Administration of five states.

Doctor Pearce is a former county physician for Caddo county.

Dr. Henry H. Turner Speaks in Chicago

Dr. Henry H. Turner, Oklahoma City, was a guest speaker at a meeting of the Chicago Medical society, November 6, in Chicago, when he discussed "Fatigued States Associated with Endocrine Disorders."

November 7 and 8, Doctor Turner attended the Central Society of Clinical Research in Chicago.

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REVIEWS and CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments From
LeRoy Long Clinic
714 Medical Arts Building, Oklahoma City

"SOME ETIOLOGIC FACTORS IN STERILITY." Virginia Clay Hamilton, M.D., Bath, Maine. American Journal of Obstetrics and Gynecology, September, 1941, Vol. 42, No. 3, Page 477.

This is a study of 483 consecutive cases admitted to the Sterility Clinic of Bellevue Hospital.

There is much detailed information contained in the report quite similar to other studies on sterility, including a rather large number of couples in whom the sterility was dependent upon the male rather than the female. The authors complain that their findings are not as accurate as they would have been if there had been a more careful study of all males in the couples considered.

"An average of 3.3 'sterility factors' for each couple was found. This figure would undoubtedly have been higher if more extensive study of the male partners of the patients had been made.

"The absolute and relative frequencies of the various factors found upon admittance are noted and discussed. The factors which seemed to be associated most positively with sterility in this series were adnexal pathology (both with and without obstruction of the Fallopian tubes), endocervicitis, seminal abnormalities, abnormalities of basal metabolic rate (deviations above and below the accepted norm), and duration or marriage."

They have records for 74 patients who conceived, following study and treatment, for a total of 83 pregnancies.

COMMENT: The principal reason an article of this character deserves abstracting and review lies largely in the more moderate concept of investigation for infertility as well as some of the more recent advances in investigative methods.

It is now well recognized that sterility must be considered a problem of a couple rather than an individual patient and that, even in the couple, there are usually multiple sterility factors rather than a single cause for infertility. This concept, together with such improvements of investigation as the Rubin test, has led to thorough meticulous examination of each member of a couple with the appropriate treatment of all physical abnormalities encountered in either member of the couple. There has been a consequent improvement in the results to be obtained from sterility investigation and treatment and a marked reduction in unnecessary and sometimes harmful surgical procedures upon the woman of an infertile couple.

Though it is true that there have been advances in the methods of investigation, the most important feature of the problem of infertility still rests in this more moderate concept which does not demand elaborate apparatus but a thorough conscientious medical investigation and understanding of the problem involved.—Wendell Long.

"THE SEX HORMONE EXCRETION OF ADULT FEMALE AND PREGNANT MONKEYS." R. I. Dorfman, PhD., and G. Van Wagenen, Ph.D., New Haven, Conn. Surgery, Gynecology and Obstetrics, October, 1941, Vol. 73, No. 4, Page 545.

"Studies have been made on the sex hormone excretion of (a) adult female monkeys, (b) pregnant monkeys, (c) pregnant monkeys from which the fetuses had been removed by abdominal hysterotomy, and (d) a pregnant monkey which was ovariectomized early in gestation when the fetus was removed.

"Increases in both estrogenic and androgenic substances in the urine of pregnant monkeys were observed. Following parturition, or expulsion of the placenta alone, the estrogens immediately decreased to the nonpregnant values while the high concentration of androgens persists for approximately one month post partum. Direct proof is presented that the estrogens may be produced in the ovary, placenta, and adrenal cortex. The results indicate that the greatest part of the androgens produced during pregnancy are derived from the adrenal cortex.

"The rhesus monkey is the first animal in which an increase in the urinary androgens has been demonstrated in pregnancy. The excretion of estrogenic and of androgenic substances is compared in immature, adult, and pregnant monkeys."

COMMENT: The authors feel that the androgens were probably produced by the adrenal cortex because one of their animals was subjected to oophorectomy as well as removal of the fetus on the seventy-third day and yet maintained a higher level of androgen than in the nonpregnant animal.

This is hardly sound evidence though it is, indeed, highly suggestive that the adrenal cortex was active in producing the androgens. This is particularly interesting information because we are all quite certain that there is an intimate relationship between the adrenal cortex and the female genitalia, though the exact mechanism is, as yet, far from fully explained. The instances of virilism and adenomata of the adrenal cortex offer good proof that androgens may be produced by the adrenal glands and this article is the first report of an animal with an increase in urinary androgens during the normal physiological process of pregnancy.

Of course, the practical application of information such as this will only become evident in future consideration and treatment of adrenal cortex endocrine dyscrasia as related to symptoms in the female pelvic organs.—Wendell Long.

"GASTRIC ULCER. THE SIGNIFICANCE OF THIS DIAGNOSIS AND ITS RELATIONSHIP TO CANCER." Arthur W. Allen, M.D., and Claude E. Welch, M.D., Boston, Mass. Annals of Surgery, October, 1941, Vol. 114, No. 4, Page 498.

Gastric and duodenal ulcer have been discussed so frequently under the general heading of "Peptic Ulcer" that a serious confusion has resulted regarding the proper management of these two distinct entities. Early symptoms in both diseases are much alike and the conservative measures, found adequate in uncomplicated duodenal ulcer, will also be temporarily effective for gastric ulcer on occasion. The greater frequency of acute duodenal lesions, compared to those in the stomach, has enhanced the standardization of the treatment of duodenal ulcer. This regimen applied to the more rare gastric ulcer has often proved disastrous. The time has come for more clarification of our ideas concerning the management of gastric ulcer and every effort should be made to stress the seriousness of this lesion.

There is difficulty in the differential diagnosis between ulcer and cancer of the stomach.

As a result of review of the records of all patients, treated in the Massachusetts General Hospital, during the ten year period ending January, 1940, who have had the diagnosis of gastric ulcer, the authors make the following conclusions and recommendations:

Immediate surgery is indicated for any of the following situations.

(1) The ulcer is of short duration and the patient is over 50 years of age.

(2) The ulcer is over 2.5 cm. in diameter.

(3) There is no free hydrochloric acid in the stomach.

(4) The ulcer is in the greater curvature or in the prepyloric region.

(5) The ulcer is chronic and on the lesser curvature.

They recommend hospital observation and treatment for one month, if:

(1) The ulcer is acute and in a young patient.

(2) The ulcer is under one cm. in diameter.

(3) The ulcer is on the lesser curvature or the anterior or posterior wall.

If healing is complete in one month, repeated observations should be made one month after discharge from the hospital.

If healing is not complete in one month, by roentgenologic and gastroscopic examinations, then surgery is advisable.

Gastric ulcer is, fundamentally, a surgical lesion. This is the direct antithesis of our present concept regarding duodenal ulcer.

Gastric ulcer cannot be distinguished from cancer in a high percentage of cases.

The gastric cancers that stimulate gastric ulcer comprise an especially favorable group for cure. On this basis alone, surgery should be the treatment of choice.

The end-results of gastric resection for ulcer seem to substantiate this same form of treatment even if the ulcer is proved to be benign.

COMMENT: If the medical man is convinced that the lesion is or may be cancer, he is usually willing for his patient to submit to surgrey. Most medical men at the present time, however, hesitate to submit the patient who has probable benign ulceration of the stomach to the surgeon for a radical operation. It is true that the surgeon himself has been slow in developing a sound surgical procedure for such lesions. He has also been slow in evaluating methods that seemed in the beginning to offer cure in the majority of cases operated upon. The morbidity and mortality in this field of surgery has brought about a natural reaction on the part of physicians to evade the surgeon if possible.

Most surgeons will now agree with Dr. Allen that there is evidence to warrant making a fresh endeavor to convince our medical colleagues that gastric ulcer should be fundamentally a surgical disease. Surgeons are willing to allow the medical man to continue treating early small ulcerations in the safer zones within the stomach, particularly in the younger patients. He should, however, treat this patient on a different basis than that used in duodenal ulcer . The patient with gastric ulcer should be followed until the lesion is completely healed and then checked by roentgenograms and gastroscope at frequent intervals. Suspicion should be entertained of any lesion that tends to recur or one that heals imperfectly within a short period of time. If one considers the cancer danger alone, this attitude will allow the patient to have an early and favorable operation. Under this plan, a certain number of patients will have gastric resection for benign ulcer. We believe that this is entirely justifiable.—LeRoy D. Long.

"RESULTS OF PARTIAL GASTRECTOMY FOR BLEEDING DUODENAL, GASTRIC, AND GASTROJEJUNAL ULCER." Waltman Walters, M.D., and W. H. Cleveland, M.D., Rochester, Minn. Annals of Surgery, October, 1941. Vol. 114. No. 4. Page 481.

It appears that between 25 and 35 percent of patients who have peptic ulcer have episodes of bleeding. Two principal types of gross hemorrhage occur from peptic ulcer: the chronic, which is associated with hematemesis or melena but does not give rise to severe symptoms of loss of blood even though the bleeding may be considerable, and secondly, the acute massive, which is associated with marked sweating, pallor, weakness, prostration, fast thready pulse, and circulatory collapse.

Off hand, mortality from bleeding from peptic ulcer might seem to be low, probably from one to three percent in cases of gastric and duodenal ulcer but increased to approximately three times that in cases of gastrojejunal ulcer.

There is a distinct difference in the mortality rate of massive hemorrhage and chronic hemorrhage, many observers stating that approximately 50 percent of patients, age 45 or more, if treated expectantly, will die from hemorrhage.

In most cases patients with massive acute hemorrhage who are under 45 years of age will have cessation of bleeding from rest, blood transfusion and proper diet. Not more than approximately 70 percent of such cases in patients who are more than 45 years of age will recover from that conservative type of treatment. This is probably due to the difference in the arterial wall in the different age groups. An insufficient number of patients who have acute massive hemorrhage from peptic ulcer, have been treated surgically to prove any reduction of mortality in the older age group by surgical treatment. Furthermore, there is a great difference between emergency operation performed at the time of, or shortly after, the hemorrhage occurs and several days later, when a nephrotic condition with retention of nitrogen and frequently edema greatly increases the operative risk. Finsterer has reported far more than any other surgeon cases operated on for massive gastric acute hemorrhage and his operative mortality has been lower than any other series. As a result of his experience, he stresses the importance of early operation for the acute massive hemorrhage cases. His experience emphasizes the the seriousness of a few days' delay. This would seem to be particularly applicable to the older patients. A logical conclusion from the experience of Finsterer and others seems to be that patients more than age 45 who have massive hemorrhage should be operated upon immediately, that is between 24 and 36 hours after onset of the hemorrhage, or should not be operated upon until they have recovered entirely from the effects of the hemorrhage.

In most clinics medical treatment has been employed for such lesions and surgical treatment has been postponed until the patient has recovered fully. When surgical attack has been utilized, it usually has been carried out only after medical measures have failed to control the bleeding. Naturally, surgery in the terminal stages under these conditions has proved to be relatively hopeless.

The treatment of chronic hemorrhage from peptic ulcer is an entirely different problem. Here interest lies in prophylaxis against futher hemorrhage and relief from intractable symptoms (pain) of ulcer. The surgical procedures to be employed and their indications are of great importance. Formerly it was thought that, in cases of bleeding duodenal ulcer, gastro-enterostomy afforded protection against further serious bleeding. However, it has been found that approximately 24 percent of bleeding duodenal ulcer cases having such an operation have bled subsequently.

The present paper deals with an evaluation of the effectiveness of partial gastrectomy for bleeding peptic ulcers at the Mayo Clinic operated upon during a five year period (1932-1936, inclusive).

The results of partial gastrectomy for all bleeding duodenal ulcers during that period showed 94.4 percent satisfactory results. The results were classified as satisfactory only if there had been no further hemorrhage and no symptoms of ulcer. Unsatisfactory results were obtained in only two cases (5.5 percent) in which re-

section was performed for bleeding duodenal ulcer. In each case primary posterior Polya-type of partial gastrectomy had been performed without removal of the pyloric antrum of the stomach. Multiple hemorrhages with ulcer type of pain occurred subsequently in both cases.

Gastric Ulcer: During this period, 25 bleeding benign gastric ulcers received partial gastrectomy. Two of these 25 patients gave a history of massive hemorrhage. Twenty of the 25 patients were traced in the follow up. Ninety-five percent of these 20 patients traced attained satisfactory results. In 17 of the 20 traced cases, partial gastrectomy of the posterior Polya-type had been performed; in two, the Billroth I procedure; and in one, an anterior Billroth II-type of resection without enteroanestomosis and with temporary jejunostomy. Only one of these 25 traced patients (5 percent) had an unsatisfactory result; a posterior Polya-type of partial gastrectomy was performed for syphilitic gastric ulcer in this case.

Associated Gastric and Duodenal Ulcers: The results of partial gastrectomy for bleeding in concomitant duodenal and gastric ulcers was found to be comparable to those attained for bleeding duodenal or gastric ulcer. During this period 12 patients with associated gastric and duodenal bleeding ulcers were subjected to partial gastrectomy. Ten of these 12 were traced and satisfactory results were obtained in nine of the ten traced cases.

Jejunal Ulcer: During this period, 56 bleeding jejunal ulcers were subjected to partial gastrectomy. Forty-nine of these patients had multiple hemorrhages prior to operation, and 15 had massive hemorrhage. Eight of these 15 with massive hemorrhage were more than age 45. Forty-six of the 56 patients were traced. Thirty-five had satisfactory results. Eleven obtained unsatisfactory results.

Analysis of unsatisfactory results of 112 patients treated for bleeding peptic ulcer by partial gastrectomy, who were traced, showed that 97 received satisfactory results and 15 received unsatisfactory results.

Four of the 15 unsatisfactory results occurred in cases in which the pyloric antrum and pyloric sphincter were not removed in the course of partial gastrectomy. In a total of seven of the 112 cases, the pyloric antrum was not removed, and an unsatisfactory result was obtained in four of the seven (57 percent). Both failures in cases in which the primary resection was for duodenal ulcer, and two failures in the cases of jejunal ulcer presumably occurred on this account.

In the early experience with gastric resection, it was not appreciated that the pyloric antrum should be removed in all cases in which gastrectomy was performed. From both clinical and experimental evidence it is now known that it is important to remove the pylorus, if a maximal reduction of gastric acidity is to be obtained.

If one is to obtain a relative achlorhydria, enteroanastomosis should not be performed in association with partial gastrectomy. This seems to be true when one is dealing with duodenal, gastric or jejunal ulcer.

In comparing the effect of various types of gastric resection on gastric acidity, it has been found that the Billroth I procedure is least satisfactory in this respect. Only 25 percent of patients obtained relative achlorhydria to the standard test meal after the Billroth I procedure for duodenal ulcer in contrast to 72 percent after a posterior Polya operation.

Operative Mortality: There were 14 postoperative deaths in the group of 135 cases of bleeding peptic ulcers, a mortality rate of 10.3 percent. Eight of these 14 were from peritonitis and five from bronchopneumonia.

Since 1936 the operative mortality has been improved and this improvement in operative risk has been attained by improvement in preoperative and postoperative care, the use of chemotherapy, a better understanding of vitamine deficiencies, more rigid indications for partial gastrectomy, and improvement in the postoperative care of pulmonary complications.

The authors feel that their results support the contention that partial gastrectomy offers the best chance of cure or amelioration of symptoms of bleeding peptic ulcer and the best prophylaxis against further hemorrhage.

With elimination of procedures which have proved of least merit, such as failure to remove the pyloric antrum with the resected portion of the stomach, entero-aneastomosis, and less frequent use of Billroth I-type of procedure, results should be improved.—LeRoy D. Long.

EYE, EAR, NOSE AND THROAT

Edited by Marvin D. Henley, M. D.
911 Medical Arts Building, Tulsa

"WHAT CAN BE EXPECTED OF ORTHOPTIC TRAINING?" American Journal of Ophthalmology. September. 1941. Edna Knauber. New York.

According to the author, orthoptic training improves amblyopia ex anopsia, heterotopia, and heterophoria. The object of orthoptic training is normal binocular vision with steropsis. Tasks and exercises within the ability of each individual patient are assigned. The patient's interest is maintained by showing him that he is progressing. The parent is shown from time to time that the child is really improving. When this procedure is followed out a good result is sure to be obtained. This requires definite supervised office exercise. It has been found from many sad experiences that home exercises are unsatisfactory. Orthoptic training is a necessary aid to muscle surgery of the eye. Orthoptics require a well trained technician with frequent checks by the attending ophthalmologist.

"RUPTURE OF THE DRUMHEAD AS A WARTIME INJURY." Alfred B. Alexander. British Medical Journal. Vol. 2. Page 195-6. August. 1941.

Rupture of the drumhead is the most common of all types of injury due to aerial bombardement. Already in 1940, *J. Collier*, who has studied the war injuries in Barcelona, suggested the high incidence of drumhead injuries: from 30 to 60 percent of the Barcelona air-raid casualties had sustained damage to the drumhead.

Rupture of the drumhead is considered a slight injury, but it only remains such when it is followed by an uncomplicated course, free from infection of the tympanic cavity. Such an uncomplicated course is less frequent when the injury is due to the blast of high-explosive bombs. Once infection establishes itself in the tympanic cavity the whole chain of ear afflictions and otogenic complications may be the outcome ranging from slight persistent deafness to death from meningitis.

It is customary to differentiate between direct and indirect traumatic ruptures. The direct ruptures are caused by a great variety of foreign bodies and by powerful syringing of the meatus for the removal of wax. The indirect ruptures are due to sudden changes in the density of the air in the meatus at the moment of the influence of the force. Blows on the ear or an inadequate head-first dive into the water may cause such indirect injury. The ruptures caused by explosion are not indirect injuries, though most textbooks describe them as such. There is a direct force, the wave of pressure.

From a practical point of view, one should differentiate ruptures with sterile tympanic cavity (e.g. slap), and ruptures in which the tympanic cavity has been interfered with. Blast injuries may be regarded as belonging to the second group.

Ruptures of the drumhead due to blasts may be masked by the presence of more severe injuries, and, lacking routine otoscopy, such cases are in danger of being overlooked until suppuration occurs. Yet, in most

cases, at the moment of the rupture a short stabbing pain is felt, frequently accompanied by tinnitus or the hearing of a high-pitched sound. Initial vertigo is very common. Some pain persists for a few hours or even days. Hearing is moderately reduced. There may be a feeling of fullness in the ear, occasional giddiness and sickness, headaches for considerable periods. The vertigo is caused by the cold air entering the tympanic cavity, and it is not due to labyrinthine concussion. Its mechanism is the same as in vertigo caused by caloric vestibular tests.

Objective examination will find a roundish, irregular, or slit-shaped perforation in a radial position in the drumhead. The margin is often frayed and irregular, with everted edges; a small zone around the margin of the perforation is discolored and stained by the extravasated blood. The remaining part of the drumhead may show small interstitial hemorrhages. A certain amount of blood, or coagula, in the meatus is a very common picture. In air-raid casualties the whole of the meatus may be blackened by soot.

The perforation is often situated in the anterior quadrants of the drumhead. Anatomical details of the middle ear can on occasion be seen through the perforation. It may be necessary to remove carefully the blood crusts, coagula, or wax by means of a sterile probe (but never by syringing!) in order to render inspection of the drumhead possible. This should not be done, however, if there is suspicion of a fracture of the base of the skull. Not many tests are necessary for the diagnosis of tympanic perforation.

Rupture of the tympanic membrane may heal spontaneously without any complication. After healing it is quite impossible to recognize any trace of a previous injury. Hearing may remain normal. The normal duration of such healing is 25 days. There may follow however a low-grade infection with chronic adhesive changes in the middle ear and a permanently reduced hearing (middle-ear deafness); or, there may be a highly virulent infection with frank suppurative otitis media appearing usually not later than 24 hours after the injury. Over 50 percent of air-raid ruptures are thus complicated.

In uncomplicated cases the treatment should be restricted to the protection of the tympanic cavity from external damaging influences. No unnecessary manipulations in the meatus should be undertaken. Syringing, or any kind of ear-drop is strictly contraindicated. It is sufficient to plug the meatus lightly with sterile ribbon gauze or cotton-wool, and to inspect once or twice a week. The patient should be very careful in washing his face or taking a bath. Exercise in its violent forms should be avoided.

If foreign matter has entered the meatus, it is advisable to use sulfanilamide in the form of preventive insufflation into the tympanic cavity. This may prevent infection, but it does no good in established cases of otitis media. Such cases need sulfanilamide by oral administration.

Insufflation is very efficient if it is done soon after the injury. It is a very simple procedure, and the author recommends it as a routine treatment for rupture of the drumhead during the present emergency. The meatus should be plugged lightly after the insufflation.

"THE SURGERY OF PETROSITIS." George Swinburne. University of Melbourne. The Australian and New Zealand Journal of Surgery. Vol. 11, Page 46-60, July, 1941.

A number of otologists in the latter part of the last and the early part of this century drained abscesses of the petrous temporal bone by following up fistulae accidentally found at operation on the mastoid or middle ear. Others reached abscesses in the petrous apex by removing portion of the squamous temporal, the tegmen tympani and tegman antri, and portion of the bony external auditory canal, then retracting the temporosphenoidal lobe after separating the dura from the upper surface of the petrous bone. This operation was later used by *Eagleton*, and is now commonly known under his name. In 1930, Kopetsky and Almour described their technique for burring a hole into the apex between the cochlea, the Eustachian tube and the internal carotid artery. Frenckner, in 1932, suggested perforation by curettage through the arch of the superior vertical semicircular canal. In 1933, Ramadier recorded the use of drainage through the posterior wall of the carotid canal. In 1936 Engleton suggested, and Myerson with others actually described an operation for a lateral cervical and retropharyngeal route of approach. Finally, in 1937, *Lempert* described his complete apicectomy by exposing the internal carotid in the whole of its intrapetrous course.

Lesions of the very complicated petrous portion of the temporal bone may take the form of osteomyelitis, conlescent osteitis and a condition developing into empyema which may discharge its contents through a fistula. Resolution occurs in the usual way of fibrosis. Ramadier distinguishes a hematogenic bilateral petrositis, and an otogenic osteomyelitis, but the final result of these two is much the same: a conlescent abscess.

In the typical picture the following symptoms and signs are found: (1) neuralgic pain, (2) aural discharge, (3) low grade of sepsis, (4) often a sixth nerve paralysis, (5) x-ray findings showing destructive changes in the petrous pyramid, especially the apex. The clinical picture is often atypical and the course of the infection is often silent. The complications may be very serious, and 20-30 percent of the sufferers from petrositis have died from complications in the past.

Treatment of petrositis may be surgical if the infection becomes a suppurative one. From the therapeutical point of view petrositis may be arbitrarily divided into five groups: (1) congestive petrositis, (2) suppurative labyrinthitis, (3) suppurative perilabyrinthitis with fistulae through the surfaces of the petrous temporal bone, either into the middle ear or mastoid antrum, or with the production of extradural abscesses, (4) suppurative apicitis, with or without fistulae, (5) a combination of suppurative apicitis with suppurative labyrinthitis.

Petrositis is a complication of otitis media in the same way as mastoiditis and may occur without mastoiditis, though not usually. The objects of the surgical therapy are: (a) eradication of the focus, and (b) prevention of the extension of the disease.

Congestive petrositis is not demonstrable radiologically. There may be pus formed, and if the pus drains into the tympanum, resolution may occur without further surgical operation than either a myringotomy or a simple mastoidectomy.

Suppurative perilabyrinthitis requires removal of the mastoid process, and exposure of the basal labyrinthine portion of the petrous pyramid in order to search for fistulous tracts or extradural collections of pus. All surgeons agree on careful curettage and widening of the fistula when found and, if possible, removal of the perilabyrinthine cells affected after adequate access has been obtained. *Lampert* suggests that all surfaces of the basal labyrinthine portion should be inspected, but this may be unnecessary under certain circumstances. The lesions confined to the posterior perilabyrinth are the easiest to manage and the milder cases respond to a thorough simple mastoidectomy. Lesions affecting the anterior perilabyrinth are more serious and more dangerous because they are not demonstrable through the exposure afforded by the simple mastoidectomy.

The surgical approaches to the petrous apex in apicitis may be extra- or intrapetrosal. The extrapetrosal procedures include operations in which the dura of the middle cranial fossa is separated from the superior surface of the petrous bone (a) through the simple mastoidectomy exposure, (b) by Eagleton's "unlocking" operation, or (c) by the Gasserian ganglion approach. None of these operations is absolutely reliable as to

establishing proper drainage, and all of them are more or less difficult.

The intrapetrosal operations include two main groups: the first group contains the procedures of Richards and Frenckner, and the second group includes those of Kopetsky and Almour, Ramadier and Lempert.

Richards' method is the removal of the whole of the petrous pyramid beginning with a labyrinthectomy; it is indicated only in very advanced cases with much necrosis. Frenckner's method is to curette through the arch of the superior vertical semicircular canal, passing to the apex, by going between the internal auditory canal and endolymphatic duct and sac above, and the jugular bulb and the cochlear aqueduct below. It is a sometimes very risky operation.

The other group of operations gives exposure of all possible avenues through which an infection can enter. All three procedures are performed with the presupposition that the bony shell of the petrous pyramid is intact. Almour performs a simple mastoidectomy first, then searches for fistulae in the posterior perilabyrinthine region. If none is found, a radical mastoidectomy is completed, further search for fistulae is made around the superior semicircular canal, and finally, a hole is made into the petrous tip with a dental burr through a pyramidal space between the cochlea, the Eustachian tube and the internal carotid artery. If there was sign of an extradural abscess as well as of petrous tip suppuration, or if x-ray showed a break in the contour of the bone of the apex, the subdural route is used.

Ramadier's operation consists essentially of opening into the carotid canal; the internal carotid artery is then drawn to one side and an opening is made into the petrous apex through the now exposed medial wall of the carotid canal. Both the Almour and the Ramadier operations try to keep the infection and its point of drainage within the temporal bone and away from the meninges, thus reducing to a minimum the possibility of a subsequent meningitis. Yet, Ramadier's operation may be sometimes very risky; infection may occur, or hemorrhage may follow, and even thrombosis of the cavernous sinus has been described as a complication.

Lampert objected to all these intrapetrosal methods for various reasons, and described a new method of complete apicectomy. It includes four stages: mastoidotympanectomy, exposure of the basal labyrinthine portion of the petrous pyramid, approach to the apical carotid portion of the petrous pyramid, and complete exenteration of the bony cellular structure of the apical carotid portion of the petrous pyramid, accomplished through the exploration of the entire apical course of the internal cartoid artery. In acute bacterial meningitis this operation provides a direct approach to the dura of the posterior fossa for drainage of the cisterna pontis and cisterna interpeduncularis. Yet, since the advent of therapy with sulfanilamide preparations this procedure is very rarely found necessary.

If the surgeon is watching a patient who as yet has given no evidence clinically of a fistula, he may either explore all the surfaces or he may wait a little, watch his patient carefully, take regular cerebrospinal fluid cell counts, and be prepared to intervene. Each case has to be treated on its own merits.

"SOME REMARKS ON RETINAL DETACHMENT." Malling. Acta Ophthalmologica, Kobenhavn, Vol. 19, Page 57-60, Fasciculus 1. 1941.

Since *Gonin* proposed his treatment, everybody has been studying more carefully the manifestations of retinal detachment. The manifestations are so different that one has to assume that the causes of this disease are many and varied. One form of detachment, the exudative form, is the least studied. The author recently had opportunity to observe three cases of exudative detachment. All three were women, all healthy in every respect, and there were no demonstrable pathologic conditions which could have any connection with their eye diseases. Transillumination and later findings showed no indications of tumor formation. Tensions were normal and the fields of vision showed the usual limitation corresponding to the detachments. There was no history of a direct or indirect injury.

The three patients show three stages of the disease. They show how a limited choroiditis can, by exudation, loosen the intact retina; later, the retina can perforate in the degenerated area. The fully developed picture is: choroiditis, degenerated retina with perforation and detachment. In the first case recovery was spontaneous, and there was no visible perforation in the retina in spite of the fact that the detachment was quite extensive. In the other two cases there was no tendency to spontaneous recovery because there was a perforation in the retina.

In all three cases the affection was localized to the posterior temporal segment corresponding to the region of the attachment of the oblique muscles. For indirect traumatic detachment the inferior oblique muscle in particular has been ascribed a role of importance as the patient at the moment of injury looks upward suddenly. It is possible that also in the three cases of choroiditis with detachment the oblique muscles had some influence.

Siguta recently tried to explain the pathogenesis of retinal detachment by physico-chemical factors. He demonstrated that when the vitreous is liquefied, albumen is decomposed, forming large and small ions, mostly sodium and potassium ions. These have opposite electric charges, which hinders outward diffusion. Since the internal limiting membrane of the retina acts as a semipermeable membrane, the ionized solution will attract ions from the surroundings, thus increasing the osmotic pressure in the vitreous. If the pressure rises above a point of equilibrium, water will be drawn from the retina, which will shrink and eventually rupture.

Siguta also showed that the ions are more concentrated in the upper layers than in the lower. The strongest influence upon the retina should therefore be in the upper region. Since the eyes at the same time are always moved inward the ions are centrifuged outward; hence, the perforation of the retina is often found in the upper temporal region.

"PARESIS OF THE LARYNX." V. R. Lapp, MacGregor Clinic, Hamilton, Ont. Canadian Medical Association Journal, Vol. 45, Page 239-41, September, 1941.

The muscles of the larynx are divided into three groups: (1) those that close (adductors: arytenoid single, lateral circo-arytenoid paired, thyro-arytenoid paired), (2) those that open (abductors: crico-arytenoid posticus paired), and (3) those that tense the vocal cords (tensors: crico-thyroid paired, thyro-arytenoid paired). These muscles are innervated by the vagus (superior laryngeal nerves to the crico-thyroid muscles, the recurrent laryngeal nerves to the remaining muscles).

The lesions producing laryngeal paralysis are either central or peripheral. Only bulbar central lesions can produce central laryngeal paralysis; such lesions may be due to syphilis, multiple sclerosis, syringomyelia, or progressive bulbar paralysis.

In adduction paralysis, the affection may be uni- or bilateral. In unilateral cases, the unaffected cord moves to the midline, but the affected cord remains in the inspiratory position. In bilateral cases both cords remain in the inspiratory position. The adduction paralysis interferes with all the functions of the cords. Interference with a phonatory function is inconvenient, but interference with the protective and expectorative function renders the individual more susceptible to pulmonary disease. There is no local treatment for this condition.

Unilateral abductor paralysis is not serious in itself. The patient will have a reasonably good voice with the cords either in the midline or cadaveric position. In bilateral abductor paralysis the voice is usually fair,

but there is serious interference with the respiratory function, unless the cords remain in the cadaveric position, which is unusual. Some cases require an emergency tracheotomy. Nearly all require some type of operation to increase the air space within the larynx.

King has recently devised a new and very clever operation for the relief of this distressing condition. He utilized the omohyoid muscle. This is an extrinsic muscle of the larynx, and is already "educated" in respiratory and phonatory movements. He attaches this muscle to the posterior portion of the arytenoid cartilage. Sometimes, especially if the trouble is of long standing, some further reconstruction is needed in the larynx such as immobilizing the crico-arytenoid point and freeing the fibrosed muscles . This gives controlled abduction of the cord, and there is also adduction. The operation is difficult technically, but it is worthwhile mastering the technique.

Tensor paralysis is rare. When the crico-thyroid muscle is affected the cord comes to midline, but is lax and somewhat wavy in appearance. Paralysis of the thyro-arytenoid muscle causes a husky voice, and it may cause a suspicion of laryngeal cancer.

"USE OF PROSTIGMINE FOR IMPAIRED HEARING." Morris Rosenthal. M.D. New York. Archives of Otolaryngology. September, 1941.

For the past two years this has been an interesting study as evidenced by reports from different investigators. In 1939 Davis and Rommel experimented with this drug in acute and chronic deafness as well as tinnitus aurium. Their report of its use was favorable.

In this series of cases only 30 are reported, although the investigation covered probably 100 cases; some of those did not report regularly, some came only for short intervals, some were not considered accurate enough in their audiometric checks to be considered reliable; all these were ruled out of the investigation, leaving only 30 who fulfilled all the requirements.

To begin with, each patient was given an audiometric reading and an examination of the nose, throat and ears. A sound-proof room was not used. A large nasal tampon was saturated with a ten percent solution of mild protein silver and inserted for a period of 30 minutes. It was then removed and followed by irrigation and suction. One cc. of a 1:2,000 solution of prostigmine methylsulfate was administered. In children a 1:4,000 strength was used. The treatments were given three times weekly. No other therapeutic measures were used.

The 30 audiometric charts accompany the article. They present an interesting study.

The author's comments and summary is as follows:

Thirty cases of impaired hearing are reported. In 24 the impairment was chronic and in one acute. In five cases the involvement was considered recent, because the impairment of hearing had been present less than six months.

Nineteen patients complained of tinnitus aurium.

Nineteen patients, six with acute and 13 with chronic impairment, showed objective improvement of hearing; 16 showed subjective improvement, and nine showed no improvement. Two patients reported that the condition had become worse.

Sixteen said that tinnitus had disappeared or diminished, while three reported no abatement of tinnitus.

Eleven showed objective improvement of hearing in all frequencies, while three showed loss in all frequencies and 16 showed loss in some frequencies and gain in others.

1. Prostigmine seems to have a definite value in impaired hearing of short duration and in some forms of tinnitus aurium.
2. Patients with chronic deafness show a smaller degree of improvement.
3. The patients whose cases are reported here do not show the high degree of improvement noted in the series presented by Davis and Rommel.

RIGHT: Hess Infant incubator. ABOVE: Hess incubator with Hess infant oxygen therapy unit in position for oxygen administration.

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INTERNAL MEDICINE

Edited by Hugh Jeter, M. D., F. A. C. P., A. S. C. P.
1200 North Walker, Oklahoma City

"PROGRESS IN INTERNAL MEDICINE: BLOOD." Review of Recent Literature. S. Milton Goldhamer, M.D., Cyrus C. Sturgis, M.D. and Frank H. Bethell, M.D., Ann Arbor, Michigan. Archives of Internal Medicine, Vol. 67, No. 6, Page 1177, June, 1941.

This is another review of recent literature which amounts to an abstract of 353 separate articles published in 1940 on subjects pertaining to blood and blood dyscrasias. Special consideration has been given to articles which contribute new information or supplement personal concepts.

Being impossible to abstract an abstract in any way satisfactory, it seems expedient in this instance simply to quote pertinent statements:

Several papers have appeared which confirm the belief, expressed some years ago, that pernicious anemia is a hereditary disease.

Askey has made a study of cases of "potential" pernicious anemia and suggests a plan of study whereby the disease may be recognized in the latent stage.

From the results of these experiments (Geiger, Goodman and Claiborn), it is clear that after total gastrectomy in the hog the liver becomes progressively depleted of antianemia potency.

Reports by these and other authors suggest strongly that the liver serves merely to store, or to elaborate and store, a product furnished by the stomach.

It appears that the duodenum is a true and significant source of the intrinsic factor, but that it is relatively less important than the stomach in this respect.

The observations of gastroscopists (Miller) indicate that the gastritis in most cases of pernicious anemia is of the atrophic type, but sometimes it is said to be hypertrophic.

Sandorf and Davidoff propose that the terms pernicious and allied anemias be discarded and the designation gastric anemia be substituted.

After reviewing the various laboratory tests for estimating the potency of various anti-pernicious-anemia preparations, Schlicke concludes that they do not yield uniform or satisfactory results.

Alt and Young are in agreement with the generally expressed belief that parenteral liver therapy is the treatment of choice for pernicious anemia, especially when degenerative changes in the spinal cord are present. They conclude that pernicious anemia can be maintained in remission by injections of liver extract at intervals of two to three weeks. Highly concentrated preparations are as effective as cruder ones in maintaining complete hematologic and neurologic remissions.

Since liver therapy has been employed, it has been known that eosinophilia develops after the administration of raw liver but not after use of cooked liver.

Thompson and Rousselot deny the validity of the classic concept of the course of Banti's disease—a primary splenic enlargement progressing through stages of anemia, leukopenia and susceptibility to hemorrhage from varices and terminating in hepatic cirrhosis.

Dameshek and Hanstell suggest that the best form of treatment for polycythemia is phlebotomy and an iron-poor diet.

Haden states that the best method of treatment is phlebotomy.

A new method of preparing thromboplastin reagent from rabbit brain for the determination of prothrombin is described by Quick.

Because of the increasing use of "banked" blood for transfusions, interest has been shown in the effects of storage on the prothrombin content of such blood. Quick observed a significant decrease in prothrombin occurring within two days of removal of blood. Reinhold, Valentine and Ferguson report that 73 percent or more of the original prothrombin content of stored blood is present up to three days; after seven days of storage the majority of samples of blood possess less than half of their original prothrombin.

Wiseman, Doan and Wilson, in a general article on this disorder, accompanied by case reports, favor excessive thrombocytolysis by an overactive spleen as the most probable cause of thrombopenia.

An excellent and comprehensive summary of the previously reported cases in which agranulocytosis developed after gold therapy is given by Mirick.

During the past year probably the most important contribution to the literature dealing with infectious mononucleosis is the monograph by Bernstein. His article of 64 pages, with 207 references, will be of inestimable assistance to all physicians who are interested in the condition.

The characteristic cell is described (Kracke) as a large, atypical, irregularly lobulated lymphocyte having sky blue cytoplasm with a clear perinuclear zone. One of the outstanding features of this cell is the presence of small, variable-sized vacuoles which "almost stamps it without question as being a cell of infectious mononucleosis." The percentage of the unusual cells may be as high as 90, and in nearly all cases it exceeds 50. Kracke agrees that they are lymphoid in type and that their origin is probably from the involved lymphoid tissue and the spleen. It is emphasized that the red cell count and the hemoglobin content are usually normal, a valuable differential point between this disease and leukemia.

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*Petrolagar—The trademark of Petrolagar Laboratories, Inc., brand emulsion of mineral oil . . . Liquid petrolatum 65 c.c. emulsified with 0.4 gm. agar in a menstruum to make 100 cc.

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OFFICERS OF COUNTY SOCIETIES, 1941

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COUNTY	PRESIDENT	SECRETARY	MEETING TIME
Alfalfa	H. E. Houston, Cherokee	L. T. Lancaster, Cherokee	Last Tues. Each 2nd Mo.
Atoka-Coal	J. B. Clark, Coalgate	J. S. Fulton, Atoka	
Beckham	H. K. Speed, Sayre		Second Tues, eve.
Blaine	L. R. Kirby, Okeene	W. F. Griffin, Watonga	
Bryan	J. T. Colwick, Durant	W. K. Haynie, Durant	Second Tues, eve.
Caddo	E. W. Hawkins, Carnegie	G. E. Haslam, Anadarko	
Canadian	P. F. Herod, El Reno	A. L. Johnson, El Reno	Subject to call
Carter	R. C. Sullivan, Ardmore	H. A. Higgins, Ardmore	
Cherokee	P. H. Medearis, Tahlequah	Isadore Dyer, Tahlequah	
Choctaw	C. H. Hale, Boswell		
Cleveland	D. G. Willard, Norman	Moorman Prosser, Norman	Thursday nights
Comanche	G. G. Downing, Lawton	Donald Angus, Lawton	
Cotton	Mollie Scism, Walters		Third Friday
Craig	Powell L. Hays, Vinita	Paul G. Sanger, Vinita	
Creek	P. K. Lewis, Sapulpa	Wm. P. Longmire, Jr., Sapulpa	
Custer	C. Doler, Clinton	W. C. Tisdal, Clinton	Third Tuesday
Garfield	V. R. Hamble, Enid	John R. Walker, Enid	4th Thursday
Garvin	Robert M. Alexander, Paoli	John R. Callaway, Pauls Valley	Wed. before 3rd Thur.
Grady	Turner Bynum, Chickasha	Roy E. Emanuel, Chickasha	3rd Thursday
Grant	I. V. Hardy, Medford	E. E. Lawson, Medford	
Greer	J. B. Lansden, Granite	J. B. Hollis, Mangum	
Harmon	Samuel W. Hopkins, Hollis	Wm. M. Yeargan, Hollis	1st Wednesday
Haskell	Wm. S. Carson, Keota	N. K. Williams, McCurtain	
Hughes	William L. Taylor, Holdenville	Imogene Mayfield, Holdenville	First Friday
Jackson	Raymond H. Fox, Altus	Willard D. Holt, Altus	Last Monday
Jefferson	D. B. Collins, Waurika	J. I. Hollingsworth, Waurika	
Kay	J. G. Ghormley, Blackwell	L. I. Wright, Blackwell	3rd Thursday
Kingfisher	F. C. Lattimore, Kingfisher	H. Violet Sturgeon, Hennessey	
Kiowa	J. M. Bonham, Hobart	J. L. Adams, Hobart	
Le Flore	G. R. Booth, Le Flore	Rush L. Wright, Potean	
Lincoln	J. W. Adams, Chandler	C. W. Robertson, Chandler	First Wednesday
Logan	Wm. C. Miller, Guthrie	J. L. LeHew, Jr., Guthrie	Last Tuesday evening
Marshall	John L. Holland, Madill	J. F. York, Madill	
Mayes	S. C. Rutherford, Locust Grove	E. H. Werling, Pryor	
McClain	B. W. Slover, Blanchard	R. L. Royster, Purcell	
McCurtain	R. D. Williams, Idabel	R. H. Sherrill, Broken Bow	4th Tues. eve.
McIntosh	D. E. Little, Eufaula	W. A. Tolleson, Eufaula	2nd Tuesday
Murray	P. V. Annadown, Sulphur	F. E. Sadler, Sulphur	
Muskogee	A. N. Earnest, Muskogee	S. D. Neely, Muskogee	1st & 3rd Monday
Noble	J. W. Francis, Perry	C. H. Cooke, Perry	
Okfuskee	J. M. Pemberton, Okemah	L. J. Spickard, Okemah	2nd Monday
Oklahoma	George H. Garrison, Okla. City	W. W. Rucks, Jr., Okla. City	4th Tuesday
Okmulgee	I. W. Bollinger, Henryetta	M. D. Carnell, Okmulgee	2nd Monday
Osage	T. A. Ragan, Fairfax	George Hemphill, Pawhuska	2nd Monday
Ottawa	J. W. Craig, Miami	L. P. Hetherington, Miami	3rd Thursday
Pawnee	M. L. Saddoris, Cleveland	Robert L. Browning, Pawnee	
Payne	A. B. Smith, Stillwater	Haskell Smith, Stillwater	3rd Thursday
Pittsburg	W. H. Kaeiser, McAlester	Edw. D. Greenberger, McAlester	3rd Friday
Pontotoc	E. M. Gullatt, Ada	R. E. Cowling, Ada	1st Wednesday
Pottawatomie	R. M. Anderson, Shawnee	Clinton Gallaher, Shawnee	1st & 3rd Saturday
Pushmataha	E. S. Patterson, Antlers	D. W. Connally, Antlers	
Rogers	W. A. Howard, Chelsea	P. S. Anderson, Claremore	1st Monday
Seminole	Claude S. Chambers, Seminole	Mack I. Shanholtz, Wewoka	
Stephens	E. C. Lindley, Duncan		
Texas	L. G. Blackmer, Hooker	Johnny A. Blue, Guymon	Subject to call
Tillman	T. F. Spurgeon, Frederick	O. G. Bacon, Frederick	
Tulsa	J. C. Brogden, Tulsa	Roy L. Smith, Tulsa	2nd & 4th Mon. Eve.
Wagoner	H. K. Riddle, Coweta	S. R. Bates, Wagoner	
Washington-Nowata	S. A. Lang, Nowata	J. V. Athey, Bartlesville	2nd Wednesday
Washita	A. S. Neal, Cordell	James F. McMurry, Sentinel	
Woods	C. A. Royer, Alva	O. E. Templin, Alva	Last Wednesday
Woodward	Joe L. Duer, Woodward	C. W. Tedrowe, Woodward	